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DEVELOPMENT OF A FIFTH YEAR IN MEDICAL EDUCATION IN THE UNITED STATES*

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The old proprietary medical school in this country taught medicine very badly as viewed by modern standards. There was no attempt even to demonstrate the foundation sciences in laboratories, which, except for the dissecting room and the study of necropsy material, scarcely existed. Chemistry and physiology were taught only in lecture rooms, while bacteriology and pharmacology had not even been discovered. That physicians and surgeons of any ability were trained at all was due entirely to the presence on the teaching faculties of great personalities who, by their precept and their example, dominated the fields of clinical medicine and clinical surgery. Those early schools taught the theory and the practice of medical and surgical art well, so far as they could be taught in the lecture room and at the bedside in hospital wards. A fixed and graded course of instruction of three years' duration was generally adopted about 1886, coincident with the development and addition of laboratories of instruction in the basal sciences of physiology, bacteriology, histology, physiologic chemistry and pharmacology. The course was increased to four years in most schools in the early nineties, at which time the great modern development in the specialties of medicine was added to the curriculum. Strange as it may seem, the chief objectives of a medical education, general medicine and general surgery, remained nearly stationary, so far as methods and time allotted to them are concerned, until they came to represent a minor portion of the curriculum in most medical schools.

About five years ago many schools began to realize this abnormal condition, and in order to return to the more normal conditions existing before the invention of surgical specialties, these fundamental clinical subjects were placed again in a proper relation to the rest of the work of medical education. In conjunction with this reform a more intimate relationship with the general wards of the hospitals has been added to the medical curriculum, and the system of clinical clerkships based on the English plan has been developed in many schools. It is not fair to criticize the amount of time devoted in the present four year course to either the basal laboratory sciences or to the various specialties of medicine or to the fundamental clinical branches, while the total time needed to fulfil the requirements established by the universities and in some states by the medical practice acts demands of medical students a greater amount of time than it is possible for them to devote to their education without incurring a really measurable menace to their health. The requirement of 4,000 hours of classroom work, divided into four annual courses of thirty weeks each, amounts to more than six hours a day. In some universities the requirement exceeds this minimum, which has been fixed by the laws of several states. If the content of the science of medicine requires such a devoted apprenticeship from its followers, it is fair to conclude, therefore, that the four year course has become inadequate to meet the demands for a curriculum which shall teach medicine adequately on modern lines.

Medical education has reached this stage of its development under the influence of several governing agencies. The medical schools themselves have come largely under university control, and these schools of high grade have been the most potent factor in improving medical education, both by raising the preliminary standards and by improving the methods of instruction and the facilities for education within the schools themselves. A second factor of equal importance and of the greatest possible importance in reducing the number of the low-grade schools which have existed in the United States has been the Council on Medical Education of the American Medical Association, under the leadership of its chairman, Dr. Arthur Dean Bevan. This body has held annual conventions during the past eleven years, and has been the most active agent in the elimination of low-grade schools, and in the struggle for higher standards in medical education. The work of this council was ably seconded by the report of the Carnegie Foundation for the Improvement of Teaching, issued in 1911. The third factor for the improvement of medical education has been found in the state boards of licensure.

The work of these three bodies has usually been in harmony, but the most recent development would seem to indicate that the state boards were pulling somewhat apart from the schools, and from the general profession as represented by the Council on Medical Education. There seems to have arisen a sort of rivalry between various state examining boards to place their particular states on a somewhat higher plane of education and requirement for licensure than is the practice in other states. As long as the state legislatures followed the lead of the Council on Medical Education and prescribed the methods of examination and qualifications of preliminary education, no special harm was done; but when various states began to prescribe the curriculum that should be taught in the uni-

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versities, their action gave rise to endless difficulty, and they were usurping functions which might more properly have been left to the universities. The recognition of the inadequacy of the present four year curriculum to give a competent medical education without detriment to the health of the medical student is primarily a university and not a state matter. Nevertheless, various state legislatures have empowered their boards of medical examiners to correct this error in modern medical education by prescribing a year's hospital practice on the house staff of some approved hospital as a prerequisite for admission to licensure examinations. By this action these states have removed a year of necessary training from the control of the schools of medicine and placed it in the hands of the hospital boards, which, in the past, have been more concerned with the care of their patients than with developing the educational opportunities that are inherent in every hospital service. It would seem to be an amusing paradox, if it were not really a serious matter, that any state should require a year's practice of a prospective physician before admitting that physician to an examination to test his fitness to perform the work of administering to patients in medicine and surgery. Several universities have followed blindly the state examining boards in requiring a year's practice in some recognized hospital as a prerequisite to receiving their degree of M.D. It would seem that this action in acccepting a year's work without university control other than a more or less thorough examination of the hospitals involved is a bad educational procedure.

The necessity for adding a fifth year to the present four year medical course is undoubtedly granted by all students of medical education; but such a year when added should remain under university control and should result in a relief to the crowding of the present curriculum. The student in his added fifth year should receive under the supervision of university officials the equivalent of the last of the two years of a hospital internship as at present administered, and not merely the ordinary first year as now made up, in most hospitals, entirely of laboratory and subordinate work without responsibility. This fifth year should give the student of medicine, in addition to a year of clinical work and training in hospital practice, an extension of his opportunity for training both in the laboratory subjects in the first years of his course and also in the specialties of medicine during the second two years. Finally, and of great importance, this proposed extension of time in the curriculum should secure to the student a certain amount of leisure during his whole course in medical education to be devoted to reading outside of the regular curriculum. The recent graduate in medicine should receive in a properly organized five year course of study an opportunity to assimilate a broad view of the whole field of the practice of medicine.

The organization of a proper fifth year should not be left to the control of state boards and hospital authorities. Under such a system the hospital intern never has received and will not receive an experience proportionate to the amount of time expended in a year's service. It is not possible at present for a state board to have any but a perfunctory control over the managers of privately endowed hospitals, and there do not exist at the present time a sufficient number of state and municipal hospitals to care for the annual additions to the number of medical graduates. The present system of graded intern service controlled by a rotating visiting service has resulted in a tradition that the intern house officer is the head of his wards and has prevented the development of a system of continuous influence because controlled by the rotating visiting physicians and surgeons. The limit in time of service both for the intern and for the attending staffs has failed to build up any permanent organization. It is a notorious fact that during the first of the usual two year service as a hospital intern the recent graduate gives to the institution much more than he receives except in the very best organized hospitals. During this year, under the present arrangement, the intern does a maximum amount of drudgery in the laboratory in return for a minimum amount of instruction and experience. He accomplishes really no advanced work in the diagnostic and therapeutic study of disease. This part of his hospital course is secured by him as an intern only during the last half of an eighteen or twenty-four months' service. The exceptional hospitals to which this criticism does not apply are those institutions which are connected either directly or indirectly with medical colleges, and in whose wards active clinical teaching is carried on.

It is not possible that any state classification of hospitals based on the number of beds, laboratory facilities, library plant and similar criteria will ever be able to hold the management of an institution in the first rank of educational progress unless there is instilled through the whole institution that spirit of scientific thought and study which can come only from a daily accountability to a group of eager students. It follows, therefore, that the hospitals which are most completely under university control will offer the best service for medical and surgical interns, and it is an equally logical conclusion that if the training and work of the hospital intern himself is to be used as a means of education, that work from beginning to end must be also under university control.

The educational advantages which will follow from the addition of a properly organized fifth year will consist of an opportunity to remove from the first two years of the medical course all clinical work and to permit the student during those two years to devote himself to a laboratory training and theoretical study of the fundamental sciences which underly medicine. Only in this way can the student secure a sufficient time to learn the necessary parts of those fundamental sciences which have so enormously increased during the past ten years.

A second advantage to be secured is the opportunity for extending the time to be devoted to training in medical specialties. Even in a five year course, however, no attempt should be made to do more than give the graduate in medicine a knowledge of the principal pathologic conditions which occur in the organs of special sense and in the special functions which are grouped under the heading of medical specialties. He should be trained to recognize the normal condition of those special organs and systems and to recognize variations from the condition of health. In no sense should the attempt be made to make the recent graduate of medicine a thoroughly trained man in any single one of the specialties of medicine. The time to be devoted to the student's training in special clinical subjects should be limited to a necessary proportion of the third and fourth years of the curriculum.

The third advantage to be secured will be the devotion of parts of his second and third year to mastering all the methods of diagnosis which are applicable to the study of the problems of surgery and internal medicine in order that finally in his fifth year, under proper instruction and oversight, he may devote his whole time to clinical work in the hospital wards devoted to these two great branches of medicine, which must in the last analysis prove the lifework of the vast majority of medical men.

In developing this fifth year it is important that time should be saved the student throughout the whole course for leisure in which to devote himself to collateral reading on the special clinical cases and the scientific facts which come within his daily observation. In order to carry out such an organization, it is necessary to reorganize the great majority of American hospitals. The old time rotating service for the attending staff, which has begun to disappear, must be abolished entirely. If the hospital is large enough it is better to place two men in continuous charge of half as many beds than to allow these two men to alternate on twice the number for periods of service of six months each. The single-headed continuous service is absolutely essential in any hospital in which a consistent system of education is to be developed. The second change consists in abolishing the old American ideal of a rotating house staff service in either three or four grades each of four to six months' duration during a period of from sixteen to twenty-four months. In place of this there must be established a resident intern staff who shall hold their positions at the pleasure of their superior medical officers for indeterminate periods. Between the head of such a service and his resident staff officers there should be appointed a sufficient number of associates and assistants, who should also be on continuous service except for absences due to necessary vacations.

Finally, there should be added to the resident staff a number of fifth year medical students as clinical clerks. The work of these clinical clerks should be carefully supervised by the resident staff and assistant attending physicians, and should form an integral part of the hospital routine. The clinical clerks should not be an extra burden to the service, but their work should count as a necessary part of the routine work. If possible, these student clerks should reside in the hospital, and should be subject, of course, to all the rules of hospital discipline. The term of service for such student interns cannot be organized on the usual college year of eight months' duration and four months' vacation. On the contrary, the term must be a full year of twelve months without vacation. During such a fifth year the individual student should have his service so divided that he would spend one third of it on internal medicine, one third of it on general surgery and one third which might be divided in similar ward work on such medical specialties as diseases of children and neurology, and on the surgical specialties of gynecology and urology.

The organization of hospitals which might be utilized for this sort of educational work is of two kinds. Either they are directly owned and controlled by the universities themselves, which at the present time is unusual, or, if they are classified as extramural hospitals, the control of the personnel of the attending and resident staff and control of the wards for teaching purposes should lie absolutely within the power of the university. One of the great problems which is being solved in several ways by the universities of the United States is the bringing of the many well-organized and well-endowed private hospitals of the country under the control of these educational bodies. A beginning has been made in many places, but the relation of some of the best medical schools of the country to the hospitals in which they now enjoy their teaching facilities in clinical branches still leaves something to be desired so far as permanency and completeness of organization are concerned.

Probably in no such case has the perfect plan been formulated as yet. The ideal arrangement that the university shall own and operate its own hospitals demands too great an endowment to warrant any attempt for a general adoption. New funds are needed by every university today to improve both the educational and the research features of the scientific as well as the clinical departments of its school of medicine. And it would seem too great a task to add to the search for these funds at the same time an endeavor to secure a plant and sufficient endowment to provide hospital facilities while in every university town there already exists one or more hospitals which are well supported and in which medical education has been neglected by precept and tradition for many years. That the universities need these unused educational opportunities belonging to their neighbor, the hospitals, is perhaps self-evident. It ought to be equally appreciated that the hospitals need in their services the scientifically trained teachers of the university to serve them as physicians and surgeons. This fact is evident to all concerned in the management of those hospitals which have made proper alliances with university schools of medicine, to the trustees, to the lay officials and the trained nurses, to the general public, and last and really the most enthusiastic of all, to the patients in the wards. The question to be decided in each locality is, Can the local hospitals, which are already in existence, be utilized in medical education to the same advantage as would result from the building and ownership of a hospital by the university? The answer is, Yes, provided the control of the medical appointments and the organization of medical education in the hospital rest absolutely in the universities.

Two problems are presented to any university which wishes to form an alliance with an existing hospital: first to educate the hospital trustees that medical education will benefit the hospital and that the patients will be better cared for by university control of the wards than by any other system; that the hospital, in other words, needs for its development the service of university professors, of the many assistant teachers, of the medical students, and also needs for its patients the access to the college laboratories. When this has been accomplished the second problem will be met in the need for formulating a contract of alliance between the two corporations, university and hospital. This has never been done twice in exactly the same way, and in this paper an attempt has been made to indicate the objectives for which both institutions should work. It is fully believed that there exists no antagonism in the aims of both, but that the real interests of the two are identical. When such an organization as is here outlined has been accomplished, the course in medicine given in American universities will be second to none in point of completeness and thoroughness of execution as compared with that of any other country. The

excellent work in the teaching of the laboratory branches which has already been developed to so high a plane will then be equaled by the clinical teaching in the practical hospital branches, and American medicine shall have been placed on a higher plane than ever before.

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MEDICAL EDUCATION IN THE UNITED STATES*

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With the publication of annual reports on medical education, commenced in THE JOURNAL in 1901 by the American Medical Association, began the history of real medical education in the United States. The following year the work was taken up formally and continued by a committee on medical education of the Association, which committee was later merged into the present Council on Medical Education. The continuing and progressive work of this council, supplemented in 1910 by the publication of the Carnegie Foundation, gave an enormous impetus to the movement. Like publicity in all other matters, these publications, which exposed to the public and to the medical profession alike the miserable pretenses which existed, caused the beginning of what might be called modern medical education in this country. Five years prior to this time the Council on Medical Education of the American Medical Association had taken up the subject of existing low standards, and had been making a valiant fight for improvement. The Carnegie Foundation publication came very opportunely to the rescue of the Council's efforts, and gave such an impetus by its pitiless exposure that in the intervening period such a change had taken place as is almost marvelous; which, had it been predicted, would have been considered the fancies of a madman.

The final standards in the United States are hardly yet established; the future is being trusted to for much. In this country of state's rights, things do not progress evenly and the progress of medical education is no exception. But this may be said, that the revolution has progressed so far as to assure the future absolutely and that within a comparatively short period.

Behind the movement stands first and foremost the Council on Medical Education of the American Medical Association. But even this body has not been able to live up to its announced standards on account of the inequality already referred to. Certain sections of the country constantly are found unable to travel the pace, and have lagged behind until finally the Council has adopted as its standard policy to go only just so fast as the slowest might be able to follow. Of course this does not mean that the sluggard is allowed to dictate how fast its pace shall be, but practically its sluggish movements have had a measurably potent influence on the pace. In the main the Council's work has been so well done that it would seem to be hypercritical to question its wisdom in modifying its decisions. Possibly also in the long run those who have been and are dissatisfied with some of its actions will admit in their final judgment that it has acted wisely. And yet it would seem in some essential instances that it might have "stuck more closely to its guns." Nothing is ever builded for permanency without a sure and solid foundation, and nothing in the way of technical education can be builded soundly without the foundation of preliminary requirements. A weakness at this point is a weakness along the whole line, and where advance could be made rapidly at various points, a weakness in this element impairs the finishing of the whole superstructure.

On paper the medical standards of education in the United States at the present day are a preliminary education of a satisfactorily completed four years' high school course plus a year of college work in chemistry, physics, biology and a modern language, to be followed by a four year graded medical course, the first two years of which are devoted to the laboratory subjects and the second two years to the clinical features, and then a year's practical training as an intern in a hospital. This standard, which is the "ideal standard" of the Council, is in process of attainment, and the signs of the times indicate that it surely will be reached. When once attained, this standard will be the equivalent of and equal to that of any country on the face of the earth. One cannot make a systematized comparison between the medical standards of the various countries because of the fact that they differ in essentials in many respects. For instance, the German standard is founded largely on the laboratory, the English standard is founded largely on the hospital, and it will be seen that the standard of the United States is one which attempts to select the good from both of these standards — that is, the laboratory and the hospital are duly and equally emphasized.

How far, then, has this country been able to attain that which is its ideal? It is hardly just to judge the standard of a country by the standards attained in certain sections. But, on the other hand, it is unfair not to bring in sharp relief the fact that certain sections have measurably approached the more nearly ideal than has the country at large. This is more true of this country than of any other, as has already been pointed out, because of our multiple standards of control, due to state rights. The fact that certain sections of the country have approached more closely to the ideal and are well on the way to the completion of that approach is sufficient evidence that in time all the country will be on the same footing. In studying the situation as it exists today, it is just, therefore, that that portion of the country which is most advanced in these matters be taken as the basis of discussion; consequently I will use the state of Pennsylvania as a peg on which to hang my comments.

As has been stated, the real foundation, without which no superstructure can stand, is the preliminary requirement. Under the yielding and leadership of the Council on Medical Education of the American Medical Association, this foundation has been and is weakened. Whatever may be the excuse, the facts remain the same, and until the day comes that this Association insists that all subterfuges and all evasions be done away with, the superstructure cannot be finished. The reasons given for allowing the student to enter the medical school with conditions in his preliminary work may be basically sound, but the fact remains that it has so weakened the superstructure that it has made it exceedingly difficult for those states wishing and endeavoring to live up strictly to

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the announced preliminary to hold their course. I myself am strongly of the opinion that the allowance of conditions at the present stage of development is entirely unnecessary and uncalled for and is holding back the desired end; not only the length of time that these conditions are being allowed but many years in addition. The Pennsylvania medical schools have been in no better condition to enforce preliminary requirements, if one is to accept as true the report of the Carnegie Foundation, than are those in many other sections of the country. And yet Pennsylvania has been able for the past two years to enforce strictly the fulfilling of the preliminary requirement. No school in that state allows of conditions to the applicant entering the medical school, and this in spite of the allowance made by the Council of the American Medical Association, which conditions are so widely taken advantage of by many schools.

The constant result of the inequality as established by this Council is that applicants are rejected on account of deficiency by Pennsylvania schools and immediately cross the border into a neighboring state and are admitted to schools which are just as well and better able to stand the financial loss. It has been contended and it is true, as has been demonstrated by the Pennsylvania schools, that a strict enforcement of the preliminary requirements has caused a loss to the class of two thirds or more of its personnel. But, on the other hand, it has been equally demonstrated that this loss is a mere temporary one and that the reaction begins immediately. The second class following the strict enforcement of the preliminary shows not only a marked increase but an increase fully equivalent to one half or more of the previous loss, and thereafter there is a steady and healthy increase, as far as numbers are concerned. I am not pretending that Pennsylvania is the only state having schools enforcing the proper standard. I am merely using it as illustrative of what is true of all of the better colleges in the country which are enforcing their requirements strictly, irrespective of irregular standards encouraged and allowed by the Council of the American Medical Association. However, the Council has promised that in 1917 these allowances shall cease. Therefore it is in sight that as far as preliminary requirements are concerned, this country will be fully up to its ideal standard. Of course this will mean the elimination of a few more of the medical schools already in the field. The actual shrinkage in the number of schools began in 1907, following the presentation of the first classification of medical colleges by the Council on Medical Education of the American Medical Association, and the movement for betterment since then has been continuous. This shrinkage has been going on more or less rapidly — certainly steadily — ever since, and there are possibly fifteen or twenty schools today in existence which will not be in existence at the end of the next five years. Whether it is possible or not that the leniency displayed by the Council on Medical Education has saved thus far some of the existing schools, the more important question involved by its action is, whether these schools were worth saving and whether they will not finally succumb.

Presumably a knowledge of the branches removed from the medical curriculum and injected into the preliminary course are basically necessary to a full appreciation of the branches retained in the medical curriculum itself. This is one view of the desirability and necessity of an advanced preliminary education in medical matters. The other view on this matter is well maintained by President Lowell of Harvard University in a paper read before the Tenth Annual Conference of the Council on Medical Education. This view embraces the cultural idea of the college work rather than the utilitarian. These two views diametrically opposed to each other have largely been straddled by the Council in its efforts to satisfy everybody. Certainly one in administering these affairs cannot act in a dual capacity: administration must be based on either one view or the other if it is to be successful. "Culture" in education is like a great many other words — widely used but with no common basic understanding as to what it means. Certain it is that culture can be derived from college studies of a scientific character just as well as it can from general college topics, and the man who cannot acquire culture in his scientific work will be unable to acquire culture in his classical work. To draw such a line of distinction is absurd. The practical point involved is, Is a man who is looking forward to devoting his coming studies to a technical subject to give an undue amount of time to purely so-called culture and to neglect deliberately in the acquiring of that culture those branches which are basically necessary to his understanding of his future technical work?

Pennsylvania has decided in the negative in this matter. The state law requires a year of college work, specifying the minimum amount: not only the minimum amount of work but also the minimum number of subjects which may be included, namely, physics, chemistry and biology. The schools of Pennsylvania, advancing one step further than the state, require in addition a modern language. A number of Pennsylvania schools have themselves increased these requirements to two years of college work, but these two years must include the amount of science specified in the state law. It may be that a man is unable to acquire the amount of culture in college work of this type that would be acquired by him were he to omit this amount of science and substitute for it the ordinary college branches as laid down in the curriculum of the literary colleges. I myself not only doubt this but also do not believe it. In any event, if he does lose a bit of culture, he has attained so much more basic knowledge of that which is necessary for his understanding of his future studies that he will run away with the college man not having had the opportunity to take this science work. Pennsylvania, therefore, administers on the supposition of the science work as essential and that culture will follow as a matter of course, with an equivalent length of time. I am well aware of the fact that this is flying in the face of the opinion of many of the educators of the country, but nevertheless I am perfectly confident that time will prove the correctness of this decision.

The medical curriculum, being freed from the basic sciences, has been able to adjust itself to a definite standard. This standard has been evolved by the adaptation of parts of both the German and the English systems. It has been believed by medical educators in the United States that neither of these systems is adapted to our native soil, however much they may be so to the soil of the parent country. The first two years of the curriculum have been devoted to that portion on which the German school is based, namely, the laboratories. The final two years

of the medical course have been given over to that portion which is especially emphasized by the English system—bedside instruction. The curriculum throughout the whole country is largely standardized today and there is very little difference in the work done in the different schools of better class: those schools which are likely to live. It has been fully recognized, however, that four years is all too short a time for any candidate to learn much more than the facts of modern medicine, and that in the final two years it is impossible to give a sufficiency of practical application of the facts of medicine to round out the candidate's knowledge. Consequently the Council on Medical Education in its ideal standard advised a year's practical training as intern in a hospital.

The hospital year is intended to be a year in which the student begins independently, or rather with competent aid, to apply the facts of medicine which he has learned in the schools during his four years of medical study. A division of opinion exists as to whether this year should be obtained prior to issuing the medical degree or after the medical degree has been issued by the college and prior to the student entering the state examination. An effort has been made to develop the work of this year from both points of view, but it is almost inevitable that failure will attend that effort which goes in the direction of the intern year prior to graduation. Again state rights very materially enter into this subject. In a country like Germany where paternalism obtains and hospitals are largely if not entirely under government control, such a system is possible. In the United States where few hospitals are owned by the state and few medical schools are state institutions, it would seem to be an almost impossible task. The University of Minnesota is making an effort to solve the problem in this way, but is having very considerable difficulty, and there is a prospect that they may fail, although the university is the only medical school in the state of Minnesota. Pennsylvania has adopted the policy of providing an internship after graduation but prior to the entrance to the state examination. The act of assembly amending the medical act of 1913 requires that:

> Every candidate for admission to the Pennsylvania state medical examination shall have completed a year as intern in a hospital which shall have at least twenty-five beds to each intern, devoted to the treatment of medical, surgical, gynecological and special diseases; shall maintain or establish cooperation with a maternity department or hospital in which each intern shall have not less than six weeks' service or the equivalent thereof, during which time he shall have attended or participated in the attendance upon not less than six confinements; shall maintain a thoroughly equipped modern pathological and clinical laboratory proportionate to the necessities of the hospital; the records on file of the cases treated in said hospitals shall give evidence of the laboratory work so done by the intern; shall maintain a department of anesthesia consisting of one or more anesthetists who shall have supervision over all the anesthesia given in the institution and whose duty it will be to instruct the intern in the administration of anesthetics.

Many difficulties have arisen in the enforcement of this provision of the medical act, and although the requirements went into effect the first day of January, 1914, the work is as yet uncompleted. On investigation of the hospitals of the state, both those owned by the state and those owned by private corporations, many were found not to measure up to the standard written into the law. Laboratories, anesthetic departments and maternity departments were found wanting in a surprisingly large portion of the hospitals. On first investigation the Bureau of Medical Education and Licensure, which was made responsible for the administration of the act, was unable tentatively to approve more than a hundred out of about 200 institutions in the state. A year's trial of these institutions has developed many points of interest as well as of difficulty. It was found that there was a considerable reluctance by hospitals to raise and expend funds for the establishment of the laboratories and other required departments, in consequence of which a rider was attached to each hospital appropriation by the legislature of 1915 to the effect that laboratories and anesthetic departments must be established in the institution to which the appropriation was made, and the approval of these departments was placed in the hands of the Bureau of Medical Education and Licensure. With the original requirements in the amendment of 1913 and the requirements of the recent appropriation acts, the Bureau of Medical Education and Licensure has found the solution of the difficulties which presented themselves. It is now in process of inspecting all the hospitals, carefully going over with them the facilities they possess and indicating to them the necessary improvements and additions. The readjustment to the new order of things is being rapidly made, and it may confidently be predicted that within the next year every hospital in Pennsylvania which shall stand approved by the medical authorities for internship will possess a proper and sufficient equipment and personnel with which to give the intern a proper fifth year of medical study.

With the completion of this movement there will be established in that state finally and definitely the ideal standard set in 1914 as the essential standard by the Council on Medical Education, namely, a satisfactorily completed four years' high school course plus a year of college work of college grade in physics, chemistry and biology and a modern language to be obtained prior to entrance on medical study; to be followed by the satisfactory completion of a graded four years' medical course in an approved medical school; this to be followed by a year's service as intern in an approved hospital. In addition to this, attention may be directed to the fact that already three of the seven schools of the state, following the example of other first-class schools of the country, are requiring a preliminary two years of college work instead of one such year.

As the preliminaries are the necessary basis of the medical curriculum, just so is the internship the basis of future practice. The graduated student passing from the medical school into the wards of the hospital begins in a measure for the first time to apply on his own responsibility the facts of medicine which he has previously gathered. These facts he now begins to learn to correlate, and without competent systematic correlation his facts will be of little use to him in the future. This year is or should be an actual year of instruction. It is not sufficient that the intern be allowed to practice on the patients in the wards, but all his methods and actions should be carefully overlooked and carefully guided and his mistakes pointed out to him and corrected. Without this, half or more of the value of the internship would be lost. Consequently the hospital which the intern enters should be an approved one. This inevitably leads to the necessity that medical authorities inspect and carry out

supervision of hospitals. The necessity for this is unquestioned. The method of obtaining the power to accomplish the result is open to administrators to find. In Pennsylvania this has been accomplished, and the work of approving the hospitals for internship is well under way. The medical act specifically requires an internship, stating that it shall be in an approved hospital, and at the same time specifically stating certain departments which must exist. During the 1915 session of the legislature, the appropriation bills to hospitals required that several of these departments, including the pathologic departments, which in many institutions were wofully deficient and in some altogether absent, be established, and the funds were provided therefor. A tentative list of hospitals in the state has been established and approved for internship, largely on the reports from the hospitals themselves as to what advantages they offer. In the meantime the Bureau of Medical Education and Licensure has undertaken a thorough investigation of each individual hospital in order that it might satisfy itself as to the true situation as to the competency of the institution for the purposes proposed. All institutions found deficient are notified as to their deficiencies and advised as to how to go about rectifying them. As soon as the work of the bureau is completed, a new list of approved hospitals in Pennsylvania will be published, and thereafter no internship will be accepted excepting from these approved institutions. It will be seen, therefore, that Pennsylvania is a pioneer in the requirement of the internship and also is showing the way to bring effectively the hospitals into line for the purpose intended, namely, a competent course of a year of practical instruction for the medical student prior to allowing him to enter on the practice of medicine.

Hospitals vary as to the length of their internship, some having twelve months, some eighteen months and a few two years. The interns have their choice of any hospital on the approved list, but having once entered on the service of that institution, are held to the full term of internship, be it twelve months or be it twenty-four months, before he is admitted to the state examinations.

To assume that this internship simply means a year of education for the intern himself would show an exceedingly narrow view of the importance of the whole movement. The Bureau of Medical Education and Licensure, during the process of its inspections, has found to be a fact that which it had long since suspected, namely, that many men of the medical and surgical staffs of the institutions are incompetent to fill their positions, using the hospitals largely for their own private purposes and in no way attempting to give a competent return to the institution, to its patients or to the public for the opportunities they themselves are receiving. The bureau has found laboratories existing in institutions of from seventy-five to a hundred beds, which laboratory had existed for some years. On investigation it was found that there had been during the past year several hundred examinations, largely of urine and blood, made in these departments. The year following the agitation started by the state medical authorities demanding that the pathologic departments be properly equipped and properly run, the examinations in these departments were found to have increased to several thousands. The conclusions are inevitable that the men on the staff of these particular institutions had never, before being faced with the necessity to do so, made even a respectable effort toward fulfilling their duties to the hospital and its patients.

It is easy to foresee with our experience in Pennsylvania at this time that the sum total of the efforts of the state in this respect will be not only the education of the intern, but also a most potent factor in the education of the staff members themselves. These men, who were either too lazy or indifferent or ignorant in the past, will be, by publicity, spurred to the necessity of the use of the laboratories. The men with a desire and ability to use the laboratory will be given wider opportunities on account of the increased facilities and the competency of the laboratory work; one of the main features being demanded is a competent laboratory personnel. The sum total is bound to be the elevation of the whole tone of the service of the hospital and of every man connected with the service. It will also tend by comparison to improve the unfit, and will give boards of managers in the future opportunities to know who are unfit by observing the use they make of the laboratory.

Nor will the movement end at this point. As the men of the hospital staff use more and more freely the opportunities placed at their command, they will realize more and more the advantages modern medicine can offer from the diagnostic and prognostic standpoints. Through properly equipped and properly manned laboratories their patients will soon acquire a knowledge of the efficiency of such service and will demand it of other physicians practicing in the community. The practitioners in the community, having their patients going to the institution and seeing the exact methods the technician applies and realizing their value, will demand their use more and more thereafter. Those on the outside who are too slothful or too ignorant will be shortly marked as unfit by the community itself.

It will be seen, therefore, that through a properly organized system of control of hospital facilities, not only is the intern educated to such a point that there will be a minimum of unfit practitioners in the state in future, but the hospital staff is equally benefited, and the intelligence of the community itself will be educated to such a point that it will be able to distinguish the fit from the unfit. The benefits of the internship are limitless, and it is our belief in Pennsylvania that it is equally potent with the establishment of proper preliminaries in the bringing of the medical profession of this country out of the low state into which it had fallen.

If all this be true, then it would seem that it would take a powerful hand not only to get control of the reform but also to carry it out. Is it conceivable that any individual agency, such, for instance, as a medical school, can accomplish this as quickly and as effectively as can the state itself? We are strongly of the opinion from our experience that the state and not the college is the proper authority to take in hand the question of internship. The authority of the college is limited and cannot spread equally wide and with equal potency as can that of the state.

It may be said, then, with truth, that the ideal standard as proposed by the Council on Medical Education of the American Medical Association has been reached in this country, and it is only a question of time until the whole country will have landed on the same platform. With a standard of preliminary edu-

cation requiring four years' high school work and one year of college work, including the necessary basic sciences, a graded four year medical course and a period of internship, can it longer be said that there is any other country which exceeds the United States in its efficiency in medical teaching?

2219 De Lancey Street.

CANCER OF THE BREAST

FIGURES WHICH SHOW THAT EDUCATION CAN INCREASE THE NUMBER OF CURES *

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I have had the impression, especially during the past five years, that the relative proportion of benign lesions of the breast is steadily changing, and that the percentage of benign lesions is on the increase. This change was associated with a shorter duration of the disease, that is, women were seeking advice earlier. I did not realize, however, or even dare hope that this fortunate change would be as great as it proved to be.

December 12, the figures were completed in a study of 1,577 cases recorded in the Surgical Pathological Laboratory of the Johns Hopkins Hospital. Further investigation may change these figures slightly, but the evidence is sufficient to justify a preliminary report now, because, it seems to me, it is the most favorable and encouraging evidence that we have up to date—so favorable, that it seems almost just to state that education of women and of the profession can cure cancer of the breast.

From 1889 to 1900, the percentage of benign lesions was 32; from 1900 to 1910, 41; from 1910 to 1913 it was 47, and from 1913 to 1915, 59, or from 1910 to 1915, 54. Therefore, in about six years as compared with the previous ten, the percentage has increased from 41 to 54 (13 per cent.). But in the past three years it has increased 12 per cent. over the previous three years.

In this group of benign lesions only definite, undoubted cases are placed. There is no question as to the diagnosis. Further investigation will probably add to the number of benign lesions not subjected to operation. It is difficult to obtain the records of these cases into the Surgical Pathological Laboratory. In my own practice I have found, since these figures were completed, almost a dozen cases of the different types of benign lesions in which operation has not been performed, the records of which did not reach the laboratory. It is also quite possible that in some cases of inoperable cancer the records have not reached the laboratory. But I am quite certain that these additional cases will not affect the results as given, except to show more improvement. Inoperable cases are distinctly on the decrease, in spite of the fact that radium has brought to Baltimore a number of inoperable cases of cancer of the breast the records of which have probably not reached the laboratory. These patients would probably have died at home.

Another impression has been confirmed by this recent compilation. Adenocarcinoma and cancer with areas of adenocarcinoma are distinctly on the increase, but only certain types—those which develop with a short duration of the disease. Adenocarcinoma which develops in preexisting tumors of one or more years' duration have distinctly decreased since 1910, and especially since 1913, while the benign tumors in which they may develop have increased.

The percentage of adenocarcinomas from 1889 to 1900 was 10, while since 1913 it has increased to 22 per cent. Fully developed cancer of the breast has decreased from 90 per cent. during the years 1889 to 1900, to 78 per cent. since 1913.

Up to 1910 we had recorded eleven cases of *benign cystic adenoma*, and nine cases of *cancer in cystic adenoma*. Since 1910 we had thirteen examples of the benign adenoma, and only one of the malignant. There is apparently only one reason for this remarkable change—if women with cystic adenoma seek advice early after the appearance of the tumor, the surgeon will find an encapsulated benign adenoma, and the patient will be protected from cancer by the removal of only the tumor. If they delay, cancer may develop.

Cancer cyst—relatively rare malignant lesion of the breast—is apparently disappearing. We have recorded sixteen cases up to 1910, and only two cases since then.

Why is it that galactoceles, which up to 1910 were a very rare observation—two cases—have become quite frequent since 1910—eleven cases, seven of which have been observed since 1913? Is galactocele a lesion which has a tendency for spontaneous disappearance, or does it develop later into cancer, and when it has developed into cancer, are we unable to recognize the preexisting lesion? There seems no question that galactoceles are on the increase.

I have just called attention to the fact that benign cystic adenomas are on the increase and malignant cystic adenomas on the decrease. This is also true of the papillomatous cysts—tumors in which apparently cancer develops late. Up to 1910 there were twenty-one benign papillomatous cysts; since 1910, twenty-three. Of the malignant papillomatous cysts there is a distinct decrease: previous to 1910, eighteen cases; since 1910, only six cases.

Colloid cancer is also apparently on the decrease: previous to 1910 we had fourteen cases, since 1910 only five cases. The decrease here, however, is so slight that it may have no significance, and as yet we do not know the benign prototype of this malignant adenoma.

Adenocarcinoma of the duct-cancer type is on the increase: previous to 1910 we had sixteen cases, since 1910, seven cases. I am inclined to the opinion that this duct cancer, when it has been present some time, changes to a medullary carcinoma.

The type of adenocarcinoma in which there is the greatest increase is that which may develop in the so-called chronic cystic mastitis of the adenocystic type: previous to 1910, eleven cases; since 1910, fifteen cases.

Adenocarcinoma with areas of fully developed cancer is distinctly on the increase, especially since 1913. I am inclined to feel that this also is an indication of an early cancerous tumor. There seems no doubt that adenocarcinoma of certain types is increasing, and mixed adenocarcinoma and cancer, while the fully developed cancers of the scirrhous, medullary and cancer-cyst type are on the decrease.

Chronic mastitis not associated with lactation appearing as a somewhat circumscribed tumor shows a marked increase: in the first twenty years there were only eleven cases, while during the last six years we had fourteen cases, twelve of which have been observed since 1913.

* Preliminary report, from address delivered before the Western Surgical Association, Des Moines, Iowa, Dec. 18, 1915.

The only way I can explain this remarkable development is that a certain type of scirrhous tumor characterized by being circumscribed shows a greater decrease than any other form of malignant tumor.

Chronic cystic mastitis with the development of large simple cysts shows a great increase: in the first twenty years, ninety-five cases; in the past six years, eighty-five cases, of which forty-nine have been observed since 1913.

My evidence seems to show that chronic cystic mastitis with large cysts has a tendency to disappear spontaneously, so that if women delay, we will see this cyst less frequently. If they seek advice at once after the appearance of the tumor, the number of cases will increase, as shown by our figures. Previous to 1910 we have records of five disappearing tumors, since 1910, of none, that is, as we have explored such tumors, none were given an opportunity to disappear. Among 178 cases of chronic cystic mastitis with large cysts, we have records of sixteen disappearing tumors, most of these in the remaining breast from which we had removed a cyst.

The benign form of chronic cystic mastitis without large cysts, the adenocystic type, is distinctly on the increase: twenty cases in the first twenty years, and thirty-three cases in the past six years, of which twenty-four have been observed since 1913. This adenocystic type of chronic cystic mastitis has been described by Schimmelbusch, Réclus and others, and all the observers state that in about 50 per cent. of the cases the lesion is malignant. Up to the present time we have had fifty-three examples of the benign type and twenty-six cases of the malignant, that is, the malignant are a little less than 50 per cent. Since 1913 the percentage of the malignant has decreased from 50 to about 30. We have here evidence, therefore, that cancer in the adenocystic type of chronic cystic mastitis is an early form of cancer. But if these patients submit to operation at an earlier period, the probabilities are that we shall not find cancer, and the percentage of cures will increase from 90 to 100.

These 1,577 cases are now being tabulated according to the duration of the disease, and the evidence so far shows that patients since 1910, and especially since 1913, are seeking advice much earlier. In each case we are trying to investigate the educational factor.

We have this evidence, which clearly shows that women are understanding the information and that the educational propaganda is so far a success.

However, when women come at this earlier period, in which a clinical diagnosis can rarely be made, the surgeon's difficulties increase. In the first place, in a smaller group, operation is not indicated, and we must learn not to remove breasts unnecessarily. In the second place, when operation is indicated, the diagnosis must be made at the exploratory incision from the gross appearance of the local area, or from the frozen section, and in many cases this is by no means a simple procedure. The probabilities are that no well-trained surgeon will ever fail to recognize the fully developed cancer, or the distinctly benign, encapsulated tumor. But if women come early, we shall find that the borderline group is large, and the difficulties of the surgeon will increase. On the one hand, he will wish to avoid the complete operation for cancer when the lesion is benign, and the almost fatal mistake of the incomplete operation when the lesion is malignant. It seems to be agreed that if there is any doubt, the complete operation for cancer should be done.

I have submitted over sixty borderline cases to a number of pathologists, and have found that in not a single one has there been a uniform agreement as to whether the lesion was benign or malignant. I have selected these lesions from among my cases which I have called benign fibro-adenoma, cystic adenoma, and benign papillomatous cysts, chronic cystic mastitis with and without large cysts, and the types of early adenocarcinoma in chronic cystic mastitis, in cystic adenoma and in papillomatous cysts. If I took one group of pathologists I could report them all as malignant, and another group would allow me to report them as benign. This is no reflection on the diagnostic abilities of the pathologists: it is simply evidence that at the present time there are certain lesions of the breast about which we apparently do not agree from the microscopic appearance only. I shall consider this phase of the subject in a second paper.

Women will be warned that there is some trouble in the breast by pain, lump, discharge from the nipple, retraction of the nipple, eczema and ulcer about the nipple, dimpling of the skin, and the presence of lumps in the axilla. If they come under the observation of a surgeon within a few days, the differential diagnosis, clinically, at the exploratory incision and from the frozen section offers difficulties which at present we do not seem to be able to overcome in the sense of exact diagnosis. It is my opinion, however, that when every case is carefully investigated, the mistake of an incomplete operation for cancer should never be committed, but the mistake of performing the radical operation for a benign lesion will occur in from 10 to 20 per cent. of the cases. This is a mistake that must be made until we have developed a method of more exact diagnosis.

I am quite certain that when women understand the situation, they will prefer the slightly mutilating operation to the danger of an incomplete removal of a malignant tumor.

904 North Charles Street.

A STUDY OF THE BACTERIOLOGY OF CHRONIC PROSTATITIS AND SPERMATOCYSTITIS

WITH SPECIAL REFERENCE TO THEIR RELATIONSHIP TO ARTHRITIS *

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It is now widely believed that chronic foci of infection may cause metastases, with resulting disease, in various organs of the body. There is considerable experimental and clinical evidence on which to base this belief. The work of Billings[1] and Rosenow especially has demonstrated the relationship between chronic focal infections and chronic arthritis and nephritis, and suggests that cardiovascular changes, myositis and neuritis may also be caused by similar foci, which have usually been located in the head.

* From the Pathological Laboratory of the Cook County Hospital, and the Otho S. A. Sprague Memorial Institute.

* Because of lack of space, this article is abbreviated in THE JOURNAL by omission of Table I. The complete article appears in the author's reprints, a copy of which will be sent by the author on request, accompanied by stamped self-addressed envelope.

1. Billings, Frank: Chronic Focal Infection as a Causative Factor in Chronic Arthritis, THE JOURNAL A. M. A., Sept. 13, 1913, p. 819; Chronic Focal Infections and Their Etiologic Relations to Arthritis and Nephritis, Arch. Int. Med., April, 1912, p. 484.

That the prostate and seminal vesicles may be the seat of such foci is presumptive, but other foci (the head especially) must be carefully eliminated or considered before such a diagnosis can be made. However, since many arthritides have been cured or improved, or the process stopped by draining a focus in one or both seminal vesicles, as demonstrated by Fuller,[2] Squier,[3] Young[4] and Barney,[5] it seems reasonable to believe that the seminal vesicles in many instances contain the foci of infection which are wholly or partially instrumental in the production of arthritis.

In this study of the bacteriology of chronic prostatitis and spermatocystitis, material was examined from patients suffering from one or both of these conditions together with subacute or chronic arthritis. The anaerobic flora and a study of the specificity of the isolated organisms are of special interest in this work.

In a study of the bacteriology of the prostatic and seminal vesicle contents, the technic employed in securing the material must be carefully considered before the value of the work can be estimated. It has long been believed that the anterior urethra normally contains many micro-organisms, and that the posterior urethra is sterile. Pfeiffer[6] considers these organisms saprophytes under normal conditions, as they have failed to give immunity reactions with the patient's serum. Stanziale,[7] with a specially constructed instrument, found that the anterior third of the anterior urethra (especially the fossa navicularis) always contained some micro-organisms, and that the middle third often contained similar organisms, while the posterior third rarely contained any. Jungano,[8] in a study of the bacteriology of the normal anterior urethra, found two anaerobic cocci and four different anaerobic bacilli, as well as all the commonly described aerobic organisms.

A carefully controlled technic was used by Young, Geraghty and Stevens[9] in the bacteriologic examination of nineteen instances of chronic prostatitis, but aerobic blood agar plates were used exclusively. Of the nineteen patients examined, from only eight were micro-organisms grown: *Staphylococcus albus* three times; streptococcus twice; slender unidentified bacillus twice, and two other unidentified organisms. Young, Geraghty and Stevens concluded that bacteria are less frequently present in chronic prostatitis at the time the patients appear for treatment than is generally believed. None of their patients had had a urethral discharge within three months. In every instance there was clinical evidence of chronic prostatitis, and pus was present in the secretion at the time of examination. However, the failure to isolate micro-organisms in a single examination of seminal and prostatic fluid is no proof of the absence of infection, as noted by Young, Geraghty and Stevens and several others, notably Notthaft,[10] who found that as many as fifteen massage treatments on definitely pathologic prostates might be necessary before the infectious nature of the disease could be demonstrated.

Cohn,[11] in 1898, did the first work on the bacteriology of chronic prostatitis, using a technic very similar to that used by Young, Geraghty and Stevens; however, he did not reirrigate after the endoscope was passed. He studied twelve patients with chronic prostatitis, all of whom had had gonorrheal urethritis. He isolated micro-organisms from each, using aerobic ascitic agar plates, obtaining *Staphylococcus albus* eleven times, streptococcus three times, *Bacillus coli* once, an unidentified colon-like bacillus once, and a gram-positive diplococcus twice. Three healthy prostates yielded sterile plates.

With a similar technic, Hitchins and Brown,[12] using ascitic agar plates and ascitic bouillon, studied forty-six examples of definite prostatitis and obtained somewhat different results, namely, *Staphylococcus aureus* eleven times, *Staphylococcus albus* twenty-four times, a nonliquefying coccus thirty times, streptococcus twenty-seven times, diphtheroid bacillus thirty-one times, *Bacillus coli* twice, and the gonococcus five times. They do not state from how many patients they failed to grow organisms, or how many times each patient was examined, other than to state that some of the examinations were repeated.

Evidence of a different sort, contradictory to the notion that the gonococcus is the exciting organism in most instances of prostatitis and seminal vesiculitis, is furnished by the statistics of Young, Geraghty and Stevens, who classified 358 examples of chronic prostatitis, finding only 73 per cent. with a history of gonorrhea; of those examined bacteriologically, no gonococci were found. Squier,[13] in his work on seminal vesiculitis, suggests that the diversity of results from bacteriologic examinations will allow of but two conclusions: (*a*) "With the exception of acute suppurative conditions, the gonococcus is regularly absent." (*b*) "There is an almost constant growth of pyogenic organisms." He also suggests that in some instances the gonococcus within the vesicles may undergo a mutation due to change in environment. Using the material secured by his operation of seminal vesiculotomy, he found staphylococcus five times, streptococcus once and an unidentified gram-positive coccus twice. Other organisms were seen in some of the smears, but were not found on culture. How the cultures were made is not stated.

The work of Notthaft[10] is interesting in this connection, but the results are not conclusive, as he used a noncontrolled technic, and made his diagnosis of gonococci by smear and not by culture. He studied 120 cases of chronic prostatitis, all with gonorrhea from six months to thirty years before, with the following results: Those in the second half year following gonorrhea showed gonococci in 73 per cent.; those in the third half year, 50 per cent.; those in the fourth half year, 15 per cent.; while in those in the third year, no gonococci were found; as early as the second half year other organisms were found, and in the fourth half year none gave gonococci alone.

There are many scattered references in the literature of bacteriologic work done, as well as vaccine therapy applied in the treatment of chronic prostatitis and spermatocystitis, but the technic is either not given or not controlled. In general the organisms isolated are the same as those already mentioned.

2. Fuller: Medical Rec., New York, October, 1909, p. 717; ibid, 1912, lxxxi, 1125; ibid., 1904, lvi, 807; Ann. Surg., 1905, xli, 903.
3. Squier: Cleveland Med. Jour., 1913, xii, 801; New York Med. Jour., 1915, ci, 333.
4. Young, H. H.: The Rôle of the Prostate and Seminal Vesicles in General Toxemias, THE JOURNAL A. M. A., Sept. 13, 1913, p. 822.
5. Barney: Boston Med. and Surg. Jour., 1914, clxxi, 59.
6. Pfeiffer: Wien. klin. Wchnschr., 1903, xvi, 762.
7. Stanziale: Centralbl. f. Bakteriol., 1906, xlii, 19, 108, 209, 309.
8. Jungano: La flore de l'appareil urinaire, Paris, 1908.
9. Young, Geraghty and Stevens: Johns Hopkins Hosp. Rep., 1906, xiii, 271.
10. Notthaft: Arch. f. Dermat. u. Syph., 1904, lxx, 277.
11. Cohn: Centralbl. f. d. Krankh. d. Harn- u. Sex.-Org., 1898, p. 229.
12. Hitchins and Brown: Am. Jour. Pub. Health, 1913, iii, 889.
13. Squier: New York Med. Jour., 1915, ci, 333.

The only reference I have found to anaerobic organisms isolated from a prostate or seminal vesicles is in the work of Albarran and Cottet,[14] who isolated a very virulent anaerobic bacillus, the *Bacillus perfringens*, from a prostatic abscess; in a patient with prostatic stone with infection the presence of an unidentified anaerobic bacillus was constantly demonstrated. That anaerobes as well as aerobes may be present in diseased conditions of the prostate and seminal vesicles is to be expected, because of the anatomic structure of these parts and the constant presence of such organisms in the anterior urethra, as well as the possibility of invasion by contiguity and through the blood stream.

In my series of thirty-four patients, the examinations did not include those with a urethral discharge within six weeks; most of them had had none for several months or years, or none at all. In each patient there was clinical evidence of prostatitis or seminal vesiculitis, as manifested by a change in size, or an irregularity in contour and consistence of the prostate or vesicles, and their contents contained pus at the time of the examination. No attempt was made to secure the contents of the prostate or vesicles separately.

Several methods of obtaining the material from the patient were tried, healthy prostates and vesicles being used as controls. Sterile fluids were obtained from these patients most constantly when no irrigation from the outside was employed, and the following technic was finally adopted:

Each patient is given hexamethylenamin and acid sodium phosphate, 15 grains each, three times daily for two or three days before collecting the material. At this time the penis, especially the glans and meatus, is thoroughly washed with soap and water and allowed to dry, after which the glans is painted with half strength tincture of iodin, and with a small applicator the fossa navicularis is swabbed out thoroughly with the same solution. This rarely causes more than a slight smarting sensation, either at the time of the application or when urine is first passed; nothing more permanent has been noticed after its use in a large number of patients. Most of the patients mention no discomfort whatsoever. The patient then passes his urine, having been previously instructed to have a partially filled bladder at this time.

When the anterior urethra has been flushed and treated in this manner, the most infectious part (fossa navicularis) has yielded sterile plates on several examinations, as demonstrated by carefully inserting a platinum loop to the bottom of the fossa and applying it directly to the culture medium.

The prostate and seminal vesicles are then stripped, the patient being in a standing bent over position. A sterile wide mouth bottle catches the fluid as it drops from the meatus. Sufficient vesicular fluid can be obtained for culture even when the urinary bladder is empty, but, of course, the vesicles can be more thoroughly emptied when the bladder is distended.

As soon as possible a drop of the fluid thus obtained was placed on the following mediums: aerobic and anaerobic blood agar slants, ascites glucose agar shake cultures, and ascitic bouillon and blood agar plates. These were incubated at 37 C. and examined at the end of each twenty-four hours until twelve days had elapsed.

Twelve patients with no history of genito-urinary infection or symptoms pertaining to the genito-urinary tract, and clinically having normal prostates and seminal vesicles, were used as controls, and yielded no growth on any of the mediums, some of them repeatedly.

Material was examined from thirty-four patients, twenty-six with associated subacute or chronic arthritis. Care was taken not to examine patients with other definite foci of infection, but in a general charity hospital it is often impossible to rule out the teeth as a possible source, so in many instances doubtful cases had to be used, as noted in Table 1.

Eighty-five per cent. of these patients gave histories of one or more specific urethral infections. Eighteen, or 52 per cent., had no symptoms referable to the genito-urinary tract, while some of the others dated their present troubles back months or years to the time of an acute specific urethritis, and at the time of the examination had symptoms pertaining to the genito-urinary apparatus.

Of the thirty-four patients studied, organisms were recovered from only twenty-four (70 per cent.). However, none of the remaining ten (30 per cent.) were examined more than three times. As mentioned elsewhere, Notthaft considers repeated massage and culture necessary before the infectious nature of some of these processes can be proved. Should these apparently noninfectious conditions be repeatedly examined, some may present their infectious nature eventually. Several in this series that yielded organisms at first gave sterile fluids, at least on one examination. This is explained on the grounds of deep glandular infection, which appears in the secretion only after repeated massage. Table 1 shows that twelve different organisms were isolated from twenty-four patients, as summarized in Table 2.

TABLE 2.—ORGANISMS ISOLATED FROM TWENTY-FOUR PATIENTS IN TABLE 1

Organisms	Alone	With Other Organisms
Staphylococcus albus	4	5
Anaerobic staphylococcus	1	...
Streptococcus haemolyticus	3	1
Anaerobic streptococcus	1	1
Gonococcus	3	1
Diphtheroid bacillus	3	...
Micrococcus tetragenus	0	1
Colonlike bacillus	0	1
Bacillus proteus	0	2
Micrococcus entarrhalis	0	1
Unidentified gram-negative anaerobic coccus	1	0
Unidentified gram-negative diplococcus	0	1

As noted in Table 1, the examinations were repeated in many patients, and the organisms isolated were the same in each instance, with the exception of Patients 4 and 22. These patients on their third examination gave only one of the two organisms appearing in the first two examinations.

Anaerobic organisms were isolated from four different patients. These were all cocci, and from three of the four patients they were repeatedly isolated, three grew alone and one with another organism. They all grow slowly, rarely appearing before three or four days; although each one gives an aerobic growth, it is very scant, and appears only after many days' incubation (from six to seven). As these organisms were transplanted they became more and more aerobic, growing at first only in the lower inch of an ascitic agar shake; but when continually transplanted, their growth came up to within one-half inch of the top, never, however, reaching the surface.

14. Albarran and Cottet: Presse méd., 1903, xi, 85.

No relationship was noted between any one organism and any particular group of symptoms. The local symptoms were mostly those due to bladder irritability, such as frequent and imperative urination, and less commonly perineal pain, painful ejaculation and intermittent urethral discharge.

An attempt was made to ascertain by different immunologic reactions whether or not the patients reacted in any measure to the infections they bore, and this was carried out with twelve of the twenty-four patients in whom such infections were demonstrated. These tests, like other phases of the investigation, were controlled. Table 3 explains the results of the reactions tried.

The skin tests were all made with a heavy suspension (500 million to 1 c.c.) of killed organisms, controlled with salt solution and a suspension of other organisms. The organism being tested was also tried on a normal individual. Should there be hyperemia and swelling about the test marks, and no very noticeable change about either control, the reaction was called positive, provided the organism did not cause a similar reaction in a normal individual. These tests as well as the agglutination tests were all made before any injections of killed organisms had taken place.

The agglutination tests were macroscopic. No test was considered negative until the mixture was incubated at 37 C. for two hours and then on ice for twenty-four hours. Controls were run with normal serum.

The opsonic determinations were made in the usual way with washed leukocytes, patient's and control inactivated serums, and a suspension of the organisms. Determinations were made at the beginning and after the patient had received three or four injections of killed organisms.

When injections were given subcutaneously to the patient, a similar injection was given some other patient of the series. A local reaction was called positive only when the patient showed more hyperemia, swelling and tenderness than the control, who showed no reaction whatsoever in many instances. For instance, Patient 17, when injected with his own organisms, had a severe local reaction characterized by a wide zone of hyperemia, swelling and tenderness, which came on in ten hours after the injection, and lasted thirty-six hours. At about the same time he had a distinct chill, followed by a fever of 100.2 F., headache and general malaise. Associated with these he experienced very severe pains in all joints that had been involved in the process. He also developed a temporary urethral discharge, something that he had not had for months. Patient 9, when injected with his own organisms, gave a similar picture; but when Patient 17 received organisms from Patient 9, and vice versa, there was no reaction whatsoever, excepting some hyperemia about the point of injection in Patient 9.

In a similar way focal reactions are recorded positive and are manifested by pain usually, and swelling sometimes, about the affected joints; associated with this there may be a lighting up of a urethral discharge, or some noticeable change in urination, such as frequency, urgency, pain and strangury.

The painful sensations of these joints are more marked in subacute than in chronic conditions in which marked bone changes have already taken place. They are constant and throbbing, usually lasting about twenty-four hours, but may be very mild; for example, one patient, No. 24, remarked that following each injection he had a peculiar feeling of formication within his knee joint, which constantly reminded him of his affected part. Associated with this peculiar sensation within his knee, an effusion invariably occurred within the bursa of the popliteus muscle, and remained for about twenty-four hours. Injections of other organisms did not cause the sensation or the effusion.

The general reactions were very variable, but usually consisted of a slight chilly sensation followed by fever around 100 F., together with headache, malaise and loss of appetite.

After the size of the dose had been regulated, the greatest reactions came with the first dose, especially so with focal reactions. An increase in the dose, however, would keep the reactions constant. The rule seems to be in these few patients, that the earlier a reaction appears the more severe it is apt to be. For instance, a number of patients (Nos. 17, 9, 12, 13 and 15) gave marked reactions, and in each instance these appeared within twelve hours following injection. Late reactions may appear after twenty-four hours, but they are mild and not specific.

The skin and agglutination reactions are difficult to interpret with the organisms used here, but in a few instances, as noted in Table 3, definite reactions were obtained, which can be accounted for only by the presence of antibodies for the infecting organism. The fact that the opsonic index was raised from normal or below in many instances is only incidental in the course of inoculations, and has no bearing on the specificity of the organisms, as it is well known that the opsonic content of a serum for any given organism can be raised by the injection of the killed homologous organisms, whether or not the individual has been infected with them.

The reactions following the inoculations of killed organisms, however, seem to be very noticeably specific. In no instance was a focal reaction caused by an injection of any but the killed infecting organism, while in eight of the twelve tried, when their own organisms were used, there were very noticeable focal reactions, two gave doubtful reactions, while two gave no noticeable reactions on repeated injections. With but three exceptions (Patients 8, 22 and 6), all the organisms are relatively avirulent for laboratory animals. Very large doses were given intravenously to rabbits and intraperitoneally to guinea-pigs; with the exceptions noted, none of the organisms caused more than a temporary effect.[15]

The original purpose of the injections was to study the reactions if any resulted, but since some of the patients showed such improvement in symptoms after injection, an attempt was made to follow systematically through the cultures with the treatment. No control patients were used. The difference in chronicity and response to treatment of any two patients is so variable that the efficacy of control patients would be slight. The treatment was irregular in some instances, but an aim was made to give one vesicular and prostatic massage weekly, together with an injection of killed organisms and tonics, etc., as indicated. The reacting dose varies somewhat, but is usually large. Five hundred million was usually the lowest reacting dose, and this dose was the one usually used, although a billion has often been given to secure the proper

15. This work is to be carried out more fully with varying and repeated doses to ascertain the possibility of any elective tissue affinity for these organisms.

reaction. Six injections were given as a rule, but some patients received only four.

Five of the twelve cases studied gave negative cultures and a great improvement or complete disappearance of all symptoms in from six weeks to three months (average, ten weeks). Six of the seven others still have positive cultures after from one to five months' observation, but five of them have marked improvement in their joints and general condition. The feeling of relief that these patients experience about their affected joints after a good focal reaction is often marked, although it is usually more or less temporary in nature. However, once a good focal reaction is obtained, the severity of the joint symptoms seems to be permanently decreased to quite a noticeable, but variable, degree.

SUMMARY

Anaerobic as well as aerobic organisms may be the exciting cause of chronic prostatitis and spermatocystitis. One sixth of this series yielded anaerobic organisms. This may help explain some of the many sterile cultures obtained when only aerobic mediums are used, as well as the inability to grow organisms seen on a smear.

The organisms isolated, in 66 per cent. of the patients tested, seem to be specific for the infected individual. This is shown by the positive reactions following the injection of the autogenous organisms, as compared with the negative reactions obtained with similar injections of other organisms of the same or different groups.

Many instances of prostatitis and seminal vesiculitis are apparently noninfectious on a single examination, but repeated examinations often reveal the infecting organism.

Chronic infections of the prostate and seminal vesicles seem to be partially or wholly responsible for many instances of subacute and chronic arthritis. The specific focal reactions obtained speak strongly in this direction.

Drainage of the focus of infection in the prostate or vesicles, by expression or otherwise, together with the raising of the antibody content of the patient's blood by inoculations of killed organisms, is apparently advantageous in the treatment of these conditions.

508 Honore Street.

Infant Mortality.—The last issue for 1915 of the *Bulletin of the Chicago School of Sanitary Instruction* gives tabulated figures of the mortality of infants under 2 years of age, according to causes, for the year 1914. Under 1 year the chief causes of deaths in the order of their importance as shown by these figures were diarrheal diseases, congenital defects and accidents, impure air diseases, acute contagious diseases, venereal diseases, tuberculosis, diseases of the nervous system, rickets, erysipelas, violence, diseases of the urinary system and diseases of the heart and blood vessels. In the second year impure air was found to assume first place as a cause of death, with diarrheal diseases second, followed by acute contagious diseases. Congenital defects dropped from second place to ninth place in the second year. There were 6,888 deaths in the first year of life, which constitute 20.2 per cent. of the deaths at all ages. The second year deaths were 1,432, or 4.2 per cent. of the deaths at all ages. The causes of deaths from diarrheal diseases in the first and second years of life occurred in the closely crowded wards, where people live under insanitary conditions, and the figures seem to bear out the estimate that 70 per cent. of infantile deaths during the first two years of life are preventable.

THROMBOPLASTIN (TISSUE EXTRACT) AS A HEMOSTATIC

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One of the divisions of the Bureau of Child Hygiene is the Division of Children's Clinics. The clinics have an eye, nose and throat and dental service, and in five of the clinics, hospital facilities are offered for operations on children with abnormal growth of lymphoid tissue in the tonsils and nasopharynx. The clinics have been operated since March, 1912. The total capacity of tuberculosis clinics for operative cases is forty-two cases a day.

Operations were performed three times a week in each clinic at first, and for the past year they have been carried out daily. Under the earlier plan the children were received in the early afternoon of the day preceding operation, and received general and gastrointestinal care during the afternoon and evening. Temperatures, physical examinations and urine analyses were made before operation. The operations were performed between 9 and 10 a. m. The children, if well, are discharged on the morning of the third day.

Under the daily plan, the children are received on the day of the operation at 7 a. m., and the usual preoperative care is given. Children are not operated on until three hours after their arrival at the clinic.

The operations are performed with the Mackenzie tonsillotome and Frothingham adenoid curet. The operators are selected from the ranks of medical inspectors, and only those who have had sufficient nose and throat training are assigned to the position of nose and throat surgeon. Operations are performed while the patient is under full but not profound anesthesia.

The operations have been standardized in each clinic, and only the accepted method is allowed to be used.

Normal horse serum treatment was used both in prophylactic and in a curative way for about six months to prevent hemorrhage. Children over 12 years of age, with the type of tonsil which we found by experience to be followed by excessive bleeding, received 10 c.c. of normal horse serum subcutaneously about one hour previous to the operation. When bleeding continued unduly, that is, about fifteen minutes subsequent to the operation, repeated injections of 10 c.c. of normal horse serum were given hourly. In some cases as much as 40 c.c. of this serum was injected before bleeding ceased, and in others even this amount failed to control the hemorrhage. While no bad symptoms occurred as a result of anaphylaxis, yet there were a number of patients who complained of bone pains, fever and skin eruptions. Emetin hydrochlorid was used, but no good effects were observed as a result of this treatment.

In October, 1914, Dr. T. Joseph Barry and I devised a combination operation. It consisted of the use of the tonsillotome and cold wire snare. The snare (Hooper's) is prepared in the usual way; the tonsillotome is slipped through the loop. The tonsillotome is made very dull. The tonsil is separated by pressure with the tonsillotome and engaged in the eye of the tonsillotome secundum artem. The snare wire is slipped over the tonsillotome blade and engaged on the tonsil by about three or four half twists of the ratchet. This snare is left in place in the mouth while another snare is similarly placed over the other tonsil. After

the second tonsil is engaged, the first tonsil is caught by forceps and the snare wire drawn home and tonsil removed. The second tonsil is similarly removed. This tourniquet operation greatly reduced the amount of tonsillar hemorrhage. The capillary oozing from the nasopharynx, however, continued to be a serious matter. The snare operation plus the calcium and the serum treatment made a picture entirely different from that under the previous method of operating. There was too great loss of blood, however, and oozing continued too long in many cases.

It was at this period that an article by Dr. Alfred F. Hess came to my notice.[1] It seemed that it would be ideal if after the removal of the tonsil, the denuded area could be pressed with a mop soaked in a hemostatic solution and the bleeding controlled at once. A few days later thromboplastin[2] provided by the Research Laboratory of the Department of Health was used at the Throop Avenue Clinic. The tonsils were thoroughly removed and a pledget of gauze saturated with this preparation was immediately applied to the cut surface; it was likewise applied in the nasopharynx immediately following the removal of the adenoids. The results were striking. The patients showed only a little bloody saliva after being put to bed. Healing was expedited, and many patients were entirely well at the end of four days.

As a result of this initial favorable experience, the routine use of thromboplastin was extended to all the department of health nose and throat clinics. Recently, in order to obtain an opinion as to the results obtained, a questionnaire was circulated to the registrars of these clinics. A summary of their reports is given in the accompanying table. A review of this table, which comprises a summary of 2,036 adenoid and tonsil operations and embraces the reports of various observers, seems convincing as to the value of thromboplastin in this connection.

SUMMARY OF 2,036 THROAT OPERATIONS IN WHICH THROMBOPLASTIN WAS USED

Questions	Results at Clinics				
	Pleasant Avenue	East 169th Street	Throop Avenue	Lawrence Street	Herkimer Street
When did you begin its use?	June 22, 1915	June 7, 1915	June, 1915	June 1, 1915	1st week of July, 1915
No. of cases in which thromboplastin was employed?	507	395	389	404	341
Results as regards postoperative hemorrhage?	No bleeding	No bleeding	Very little bleeding	Very slight bleeding	No bleeding
Do the children vomit blood as frequently?	No	No	No	No	No
Do they have bloody stools as frequently?	No	No	No	No	No
What is the general condition of the child?	Very good	Good	Good	Good	Nearly normal

I may add, in conclusion, that not in a single instance has the operator or nurse been compelled to return to the clinic to care for a bleeder after operation since the use of thromboplastin was made a routine procedure. We now feel that in case a hemorrhage did occur, any trained nurse could apply the hemostatic while awaiting the arrival of the medical inspector. Although thromboplastin solution is used liberally in the throat, and no doubt some of it is swallowed, there has not been any case of illness resulting. Thromboplastin is safe, effective and easily applied.

317 West Fifty-Fifth Street.

1. Hess, A. F.: Tissue Extract as a Hemostatic, THE JOURNAL A. M. A., April 24, 1915, p. 1395.

2. The preparation of thromboplastin is simple and inexpensive. Dr. Hess describes its preparation as follows: Ox brains are obtained fresh from the slaughter-house, stripped of their membranes, washed in running water, and weighed. They are then passed through a meat chopping machine three times, and an equal amount of normal salt solution is added. This suspension is allowed to remain in the refrigerator for forty-eight hours, and it is then twice pressed through cheesecloth. This extract, which contains fine suspension of tissue in addition to tissue-juice, is diluted with one-half its quantity of salt solution. Tricresol is then added in proper proportion so that the finished preparation contains 0.3 per cent. Aerobic and anaerobic cultures of this fluid have repeatedly been found sterile. It maintains its hemostatic potency for many months.

EPIDEMIC CEREBROSPINAL MENINGITIS DEVELOPING TWENTY-TWO HOURS AFTER ABDOMINAL OPERATION

REPORT OF A CASE

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ATLANTA, GA.

History.—Oct. 5, 1915, I was requested by Dr. Charles M. Remsen of Atlanta to see with him a patient, a married woman of 30, on whom, the previous day, he had performed an abdominal operation. The reason for the consultation was that the patient had suddenly had a general convulsion twenty-two hours after the operation, and was in a state of profound unconsciousness.

The patient had been under Dr. Remsen's observation for a year prior to operation, and had been put into good condition to undergo the procedure. Furthermore, she was in the hospital for eight days before the operation was performed. During this period her pulse and temperature were constantly normal, she was not exposed to any known infection, she occupied a private room, and spent a good deal of time on the roof in the open air. In short, everything possible was done to forestall complications, and to promote the best possible conditions.

At 6 o'clock on the morning of operation, the temperature was 97.4, the pulse 78, and the respirations 20. The patient had slept well, and appeared to Dr. Remsen to be in excellent condition for undergoing her ordeal. The operation was done at 11:30 a. m., the work consuming a little over an hour. When the patient was returned to bed the pulse was 132, but she slowly reacted, and by 6 o'clock in the evening the pulse was 112. At 9 p. m., the pulse was 110, the temperature 98.3. The patient vomited a number of times, but her general condition appeared entirely satisfactory. She passed an uncomfortable night, though she slept at intervals. At 9:30 a. m., October 5, the temperature was 98.2, pulse 88, respirations 22. At 11:45 a. m., she had a general epileptiform convulsion lasting ten minutes. There were no prodromes. The seizure appeared out of an almost cloudless sky. She did not regain consciousness after the convulsion, but remained profoundly comatose. At 12:40 p. m., a second convulsion appeared, similar to the first, but not lasting so long. At this time, when I first saw her, physical examination revealed nothing save that the patient lay in coma, and that there was frequent muscular twitching in various parts of the body, especially in the hands. Heart, lungs and abdomen showed nothing unusual. At this time there were no Kernig's sign, no abnormal ocular manifestations, and no evidences of renal disturbance.

There was no stiffness or retraction of the neck. At 3 p. m. the temperature was 98.3, pulse 98, respirations 24. Chloral and bromids controlled the convulsions, which did not again recur. During the ensuing night, a number of times death seemed imminent. The pulse began to show the most start-

ling changes, varying in a few moments from 84 to 140. The respirations, likewise, became very irregular, varying from 28 to 10 per minute, and for several hours became extremely shallow, and sighing in character. Apparently, the patient was kept alive only by the administration frequently of the most rapidly diffusible stimulants.

At 9:30 a. m., October 6, lumbar puncture was done, and 10 c.c. of slightly turbid spinal fluid withdrawn. Immediate microscopic examination revealed a small number of extracellular meningococci. Thirty c.c. antimeningococcic serum (Flexner) were at once administered, intradurally. In an hour the pulse fell from 140 to 114, and during the subsequent illness never again went higher than 120. The patient's general condition began to improve at once. At 8 p. m., the same day, a second dose of 25 c.c. of serum was given. October 7, at 10 a. m., 25 more c.c. of serum were administered. The spinal fluid was now more turbid, but showed fewer organisms. The patient's pulse now ranged from 102 to 110, and temperature from 99 to 102 in an irregular fashion.

Kernig's sign was now present, as well as transient external strabismus. The patient was still in profound coma. At 7 p. m., October 7, a fourth dose of 30 c.c. of serum was given. The fifth dose of serum, 30 c.c., was given at 10 a. m., October 8. Following this dose the patient roused from coma sufficiently to swallow a few drams of water, but was speechless and oblivious to her surroundings. At 9 p. m., October 8, the sixth dose of 30 c.c. of serum was given, and at 6 p. m., October 9, the seventh and final dose of 25 c.c., making a total of 125 c.c. of serum administered during four days. After the last dose of serum, the improvement was marked. The patient was able to swallow an ounce of milk every hour, and gave other evidences of slowly returning consciousness. Improvement gradually continued. By October 13 the patient could speak an occasional word, and the restlessness of the few preceding days following the deep coma began to abate. At this time the temperature ranged from 99.4 to 100.1, and the pulse from 86 to 104.

It is perhaps pertinent to mention that, October 6, the second day of the meningitis, when the patient was turned on her side, there was a discharge of 3 or 4 drams of purulent material from one nostril. It is possible that this represented the source of infection, and that following the inhalation of the anesthetic, the organisms found their way through the cribriform plate.

The temperature touched normal first on the fifteenth day of the disease. The patient at this time was occasionally quite restless, still mentally dazed, and able to articulate very slowly a few words. By the nineteenth day all symptoms of the disease had disappeared except the mental dulness, moderate frontal headache and great deliberateness in speech—a veritable groping for words. It might be noted here that the abdominal wound showed no intention of healing until the complete subsidence of the meningitis.

By November 10 the patient was able to take a few steps with assistance. At this time the speech was normal, the memory regained, and except for transient emotional disturbances and general weakness, there were no symptoms. November 14 the patient was discharged from the hospital in excellent condition, though rather weak. At present she is restored to her usual health, entirely free from complications or sequelae of meningitis.

COMMENT

The interesting features of this case are:

1. The occurrence of cerebrospinal meningitis as an operative complication, appearing suddenly, without the slightest warning.

2. The entire absence of the physical signs of meningitis for twenty-four hours after the initial convulsion. There were no Kernig's sign, no ocular manifestations, no retraction of the head or stiffness of the neck, no prodromal headache, no disturbances of temperature until eight hours after the initial convulsion, and none of pulse or respiration until twelve hours after the initial convulsion. In short, the only symptoms for a number of hours were convulsions, muscular twitching and coma—symptoms common to not a few pathologic processes. Diagnosis was made as the result of lumbar puncture.

3. The probability that meningococci were present in the purulent material in the nasal passages, and the interesting and insoluble problem as to whether or not the anesthetic had anything to do with the passage of organisms into the meninges (mechanical factors, lowered resistance).

4. The nonunion of the operative wound until after the complete subsidence of the meningitis.

5. The remarkable curative effect of the Flexner serum given persistently, in a case in which, for a number of hours prior to the first dose, the patient appeared moribund.

1023 Empire Building.

EXPERIENCES WITH THE KIUTSI-MALONE URINARY TEST FOR PREGNANCY*

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AND
MAX MORSE, PH.D.
OMAHA

This paper concerns an empiric study of the method for the determination of pregnancy by utilizing the urinary enzyme called forth by the development of the placenta as outlined by Malone.[1]

In the first place, it is possible to urge the following general criticisms against the method:

1. It has been quite conclusively shown by qualitative methods in the hands of Peiper,[2] Plaut,[3] Jobling and Petersen,[4] and others, that the enzyme occurring in the blood, which Abderhalden utilized as a test for pregnancy by the color reaction with ninhydrin, when applied to the dialysate from a digest of blood containing this enzyme and the specific substrate placenta, is not a specific one, and quantitative methods by Van Slyke[5] have demonstrated this to be true to a degree beyond question.

2. Two sources exist for the appearance of proteolytic enzymes in normal urine, namely, excreted enzymes from the subject, and, secondly, those due to the presence of certain bacteria. Since the earlier work of Matthes,[6] several investigators[7] have estimated the efficiency of the pepsinlike enzyme occurring in urine. Being pepsinlike in nature, it gives, as end-products, biuret positive compounds of the character of peptones. Under certain conditions, such as after a meal high in proteins, and especially where there is tendency to excretion of large volume, the enzyme appears in a quantity well able to account for the anomalous results which we have experienced and which will be given in detail later. With regard to the matter of bacteria, our own results show conclusively the danger from this source.

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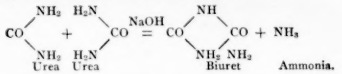
* From the Department of Biochemistry, University of Nebraska, College of Medicine.

1. Malone, R. H.: The Diagnosis of Pregnancy: A Simple Method Based on the Presence of Specific Enzymes in the Urine, THE JOURNAL A. M. A., May 15, 1915, p. 1651.
2. Peiper, A.: Deutsch. med. Wchnschr., 1914, xl, 1467.
3. Plaut, F.: München. med. Wchnschr., 1914, lxi, 238.
4. Jobling and Petersen (for literature) see: Bull. Johns Hopkins Hosp., 1915, xxvi, 356.
5. Van Slyke, D. D.: Jour. Biol. Chem., 1915, xxiii, 377.
6. Matthes, M.: Arch. f. exper. Path. u. Pharmakol., 1903, xlix, 107.
7. Wilenko, G.: Berl. klin. Wchnschr., 1908, xlv, 1060. Ellinger and Scholz: Deutsch. Arch. f. klin. Med., 1910, xcix, 221. Benfey, A.: Biochem. Ztschr., 1908, x, 458.

3. Malone's method is based on the biuret reaction, and it must be obvious to one familiar with clinical diagnosis that the typical color reaction called for by the method in question, that is, the peptone color, would be identified only with difficulty in the highly colored medium of the urine, even if some of the urinary pigments be removed by adsorption with animal charcoal, colloidal iron, etc., as we have been able to do, or with kaolin, as Malone suggests. We have encountered faint positives which, unless one were constantly working with the test, one would undoubtedly fail to discover as positive.

In the second place, the use of the alkaline ingredient of the biuret reaction is conducive to the conversion of some of the urea into the substance biuret by the elimination of a molecule of ammonia:



In an alkaline urine this may be demonstrated in vitro without introduced reagent.

4. The method of removing biuret positive compounds by adsorption on a mechanical shaker may prejudice the results in that it is our experience that the shaking with kaolin for five minutes of a biuret positive urine will so affect the color reaction after digestion and filtration that it is materially weakened, and in the case of a weak, positive reaction, such as one encounters at times, it is conceivable that the diagnosis would be rendered negative.

Aside, now, from these general considerations, we may say that we have obtained negative results when pregnancy has been present; that we have obtained one positive result in male urine and one in what unquestionably is a nonpregnant urine.[8] The same substrate was used throughout, being prepared according to the method given below. The ingredients used in the color reactions have been the same throughout, being withdrawn from the same stock bottles. All digestions were made in an electrically controlled and heated incubator at 37.5 C. with a fluctuation of 0.5 degree.[9] New carbon dioxid flasks were used in the digestions, and in questionable cases, Jena glass test tubes which had never been unwrapped were used for the color reactions. The same brand of filter paper (S. and S. 589) was used throughout. The only common factor were the funnels used in the filtrations, but these were washed thoroughly in hot water and dried with tissue towels before use.

The substrate was prepared as follows:

The placenta, which had been obtained within a few hours after delivery, was carried to the laboratory and placed directly on ice. It was removed in small sections, washed in lukewarm tap-water and squeezed, so that all excess of blood was removed. Then the portions recommended by Abderhalden were removed by dissection and dropped as small pieces into physiologic normal saline (0.9 per cent.) in a beaker which rested under a mechanical stirrer. The stirring was continued for periods of fifteen minutes and then the saline was changed. This continued throughout the day. At evening, the mass was transferred to a large glass container and placed under the tap with cheese-cloth covering to keep the pieces of substance from washing away. The washing was continued through the night. In the morning, the substrate, now quite white, was placed on filter paper to remove the excess water and then transferred to a porcelain plate which rested on an electric hot-plate. A current of air was blown across the mass by means of a slowly moving electric fan, and the temperature regulated so that it registered under 50 C. Drying was completed within one and one-half hours, when the mass was ground to a powder in a mortar and transferred to a weighing bottle in a desiccator over sulphuric acid. Ninhydrin tests on the dialysate from an aqueous suspension were negative. Biuret tests applied to the filtrates from suspensions were also negative. There is no evidence that any appreciable amount of autolysis occurred.

Regarding the rôle of bacteria, the following may be said: Through the kindness of our Professor Schultz, of the Department of Pathology, we autoclaved urines and, after cooling, inoculated them with cultures of *B. coli communis* and *B. proteus*, which are to be found in practically every urine. When these urines were left in contact with the substrate, placenta, a strong biuret reaction was obtained according to the method of Malone. It is obvious that we have here a serious factor and one which cannot be controlled in the ordinary clinical method. It is possible that the positive controls which we found are explicable on this ground. The objection that we have introduced a virile strain of bacteria which never occur in such a degree of virulence cannot be well maintained, for toluol affects the growth of these bacteria but slightly, and consequently there is nothing to inhibit the growth of these species, with ultimate effect on the reaction.

Malone's method was followed throughout. Our results are given in the accompanying tabulation.

RESULTS OF EXPERIMENTS

Total urines of females known to be pregnant	24
Of these, those giving definitely positive reaction	17
Of the total number, those giving weak, or indefinite reaction	2
Of the total number, those giving negative reaction	5
Of the total number, those giving initially, positive reaction	2
Total number of controls, female	5*
Of these, those giving negative reaction	4
Of the total number, those giving positive reaction	1
Total number of controls, male	11*
Of these, those giving negative results	10
Of the total number, those giving positive reaction	1
Urines autoclaved at 15 pounds, cooled and inoculated with B. coli communis	2
Reaction of these urines, positive	2
Urines autoclaved as before and inoculated with B. proteus	2
Reaction of these urines positive	2
Urines checked as to preservative (thymol in $CHCl_3$), with thymol	2
Reactions positive	2
Urines without thymol, not iced and standing at room temperature twenty-four hours	2
Reactions positive	2

* All gave negative reaction, initially.

CONCLUSIONS

1. There are many objections to the method from the theoretical aspect.

2. Our experiments, while showing acceptable results in 66 per cent. of the cases examined, yet leave a high degree of uncertainty in the remaining third.

3. The appearance of positive reactions in certain cases known to be negative are inexplicable, except as involving an ever-present error, such as the factors bacteria, excreted pepsinlike enzymes, etc.

4. The test, as at present conducted, cannot safely be depended on as a diagnosis of pregnancy, owing to:

(*a*) The nonspecificity of the reaction.

(*b*) The frequency of errors.

8. The subject is unmarried, with history not admitting the possibility of a positive reaction.

9. Hearson thermostat.

Vivisection and Brutality.—Not only is it not true that vivisection experiments tend to make the experimenter callous; the reverse is actually the case. I can testify from my own experience that it is harder to make the fiftieth experiment than the first; that one's sympathies are more awakened rather than destroyed. There is no doubt that abuses are possible—are even probable. Yet most of the stories told to illustrate the brutality of vivisectors in things aside from the experiments themselves are highly improbable.—Maxwell.

RÔLE OF THE LYMPHATICS IN ASCENDING RENAL INFECTION

PRELIMINARY REPORT *

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AND
JACOB V. KAHN, M.D.
CHICAGO

We have just completed a series of twenty-seven experiments on dogs and rabbits which show that infection travels from the bladder to the kidneys and perinephritic tissue by way of the lymphatics in the wall of the ureter and not along its mucous membrane. Our observations, so far as we can ascertain, are the first to show that the lymphatic capillaries of the periureteral sheath (in laboratory animals as well as in the human being) play a most important part in ascending infection. Going a step farther, the constant finding of evidences of infection in the immediate vicinity of the rich network of periureteral blood vessels makes it seem plausible that infection can travel, as Sampson and Bauereisen assert, to the kidneys from the female genitalia and other abdominal viscera which lie in close relation to the ureter.

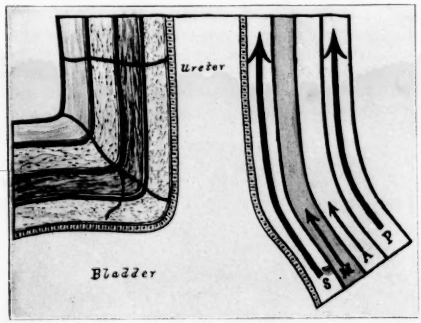

Fig. 1.—Diagrammatic view showing how the lymphatics of the bladder communicate with those of the ureter. On the left side are shown in heavy lines the various lymph vessels and how they communicate. On the right side, *S* and *P* represent the chief routes of ascending infection in the submucous and periureteral coats, while *M* and *A* show the less important routes in the muscular and fibrous coats.

Franke has shown how the lymphatics of the ascending colon communicate with those of the right kidney, and thus explains some, at least, of the renal infections in children. The assertion of Bauereisen, that cystitis and renal infection following gynecologic operations take place via the lymphatics, seems quite plausible in view of our results. The older view, that infection from the lower to the upper urinary tract travels within the lumen of the ureter, that is, against the secretory current, must, we feel, be abandoned except when the ureter is completely obstructed by a calculus, stricture or external pressure.

In nearly all previous animal experiments, conditions were established, such as ligation of the ureter, injection into the renal pelvis, or implantation into the bladder, which seldom exist clinically. Under these conditions it is not surprising that evidences of infection are found (Aschoff[1]) within the tubules of the kidney seven hours after injection into the ligated ureter. The changes, both in the ureter and in the kidney itself, are usually so advanced under these circumstances that, as Mueller has recently shown, one cannot trace in a satisfactory manner the route along which the infection first traveled.

We have attempted to imitate the conditions as found in the human being by injecting an emulsion made by mixing the scrapings of agar slant cultures of the organisms commonly found in urinary infections with sterile salt solution, and then injecting it into the bladder of animals. After thorough cleansing of the genitalia, preferably female animals, a No. 4 or 5 (French size) ureteral catheter, such as is employed for roentgenoscopic work, and which can be boiled, was inserted into the bladder, some of the urine taken for cultures, and then an emulsion of bacteria injected into the bladder. All injury to the bladder and ureters was thus avoided, and the conditions under which the organisms migrated upward resembled those found clinically as closely as it was possible to do in the animal experiments. Paraffin sections were taken from a number of places in the bladder and kidney, and were studied serially. In order to trace the infection upward along the ureter, every portion of the latter was cut longtitudinally as well as serially, so that no areas would be omitted. In five rabbits and eight

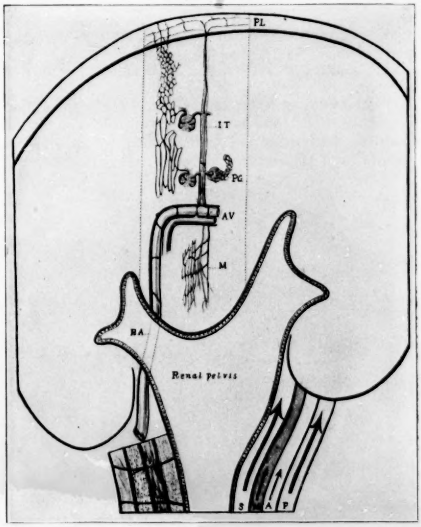

Fig. 2.—Routes of infection from the ureter to the renal pelvis and into the kidney. *S, M, A, P,* same as in Figure 1. *RA,* renal vessel lying in subpelvic tissue. *AV,* intrarenal vessels (Kumita) surrounded by lymphatics. The latter communicate with the network between the tubules of the cortex (*IT*) and those of the medulla (*M*). *PG,* periglomerular lymphatic network. *PL,* communication between the intrarenal lymphatics and those of the capsule.

* Read at the meeting of the Western Surgical Association, Dec. 17, 1915.

* From the Morris Institute of the Michael Reese Hospital and the Department of Surgery of the College of Medicine of the University of Illinois. Experiments will be published in full later.

1. Aschoff: Pyelonephritis, Jena, 1893.

dogs the *Bacillus coli* was injected into the bladder. In three rabbits and four dogs the *Staphylococcus aureus* and in three rabbits and three dogs the *Proteus vulgaris* was used. In one rabbit an emulsion made by

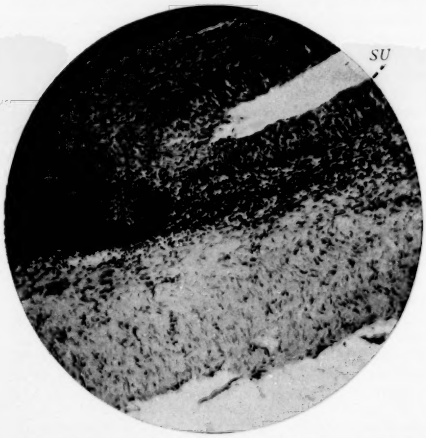

Fig. 3.—Section of dog's ureter from Experiment 411, showing marked infiltration in the submucous layer (*SU*) with other coats intact.

mixing acute gonorrheal pus with salt solution was injected.

Summarizing our results, we find that the inflammatory infiltrations follow in a most accurate manner the course of the lymphatics, as determined by the work of Kumita[2] and Bauereisen[3] (Figs. 1 and 2).

Fig. 4.—Section of dog's renal pelvis from Experiment 411, showing an area of submucous infiltration (*SMI*) with normal mucosa over it.

In the early stages of infection, the infiltration is found in the submucous layer of the bladder, and is especially dense around the smaller vessels in this layer. One can then follow the infiltration up into the ureter where, as in the bladder, it is most marked in the submucous coat in the lowermost portion of the ureter. A little farther up, however, in addition to the submucous infiltration, a new factor is introduced. We now see that the periureteral sheath, composed of loose areolar tissue in which many blood vessels lie, plays an important, if not chief, part in transmitting the infection upward. Examination of serial sections longitudinally of the entire ureter show plainly how in the early stages the infiltration around and in the walls of the blood vessels of the periureteral sheath is the earliest and most constant finding. As the infection progresses, the other coats become invaded from without inward, the mucosa remaining intact, until the infection is well advanced. We find the same sequence of changes in the human ureter, on which we shall report in a later paper.

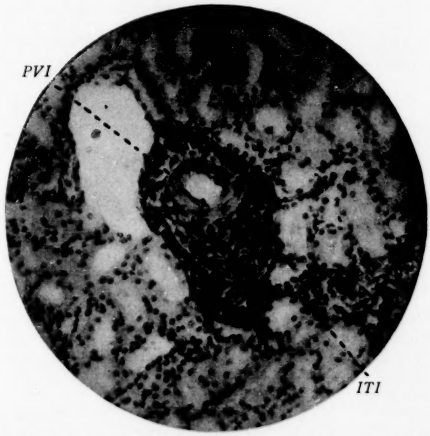

Fig. 5.—Section of dog's kidney, showing area of dense perivascular round cell infiltration (*PVI*), and also slight intertubular infiltration (*ITI*).

In the kidney pelvis the infiltration is first seen in the subpelvic areolar tissue, and again around the blood vessels, the overlying mucosa remaining intact (Fig. 3). Within the kidney our experimental work confirms the observation of Mueller[4] in the human being. The infiltration is seen at first around the renal vessels which pass into the parenchyma to form the arcual vessels, as in Figure 4; then in the cortex the infiltration is seen between the tubules and around the glomeruli, and as the infection advances, the medulla is invaded in the same intertubular manner, and finally the infiltration breaks into the lumen of the tubule in the more advanced stages. In one experiment, the infiltration followed very closely the lymphatics which allow of communication between the cortex and the lymphatics, penetrating the true capsule, which in turn communicate with this perinephritic tissue. We are convinced, as Bauereisen and others have asserted, that there is a free communication between the lymphatics

2. Kumita: Arch. f. Anat., 1909.
3. Bauereisen: Ztschr. f. gynäk. Urol., ii.
4. Mueller: Arch. f. klin. Chir., xcvii.

of the bladder and those of the ureter, and that the lymph current is in an upward direction.

Our work shows that the connecting link between the lymphatics of the ureter and those within the kidney is along the lymphatics of the subpelvic areolar tissue which surrounds the blood vessels as they enter the kidney tissue. They follow within the organ itself the course of the intertubular, periglomerular and perivascular lymphatics. In six out of twenty-seven experiments, we obtained pure cultures of the same organism from the renal pelvis which we had injected into the bladder. In none of the animals was a positive culture obtained from the heart's blood, so that hematogenous infection can be excluded.

At the suggestion of Drs. D. J. Davis and E. G. Kirk, to whom we are indebted for many courtesies, we studied the urinary organs in a number of normal laboratory animals as controls. In six dogs, as carefully sectioned and studied as our injection experiments, we found no evidence of infiltration. If one adds to this number five completely negative dog experiments, we have eleven dogs with absolutely no pathologic changes. In our rabbit controls we have thus far, out of twelve normal animals, found in five of them very slight evidences of infiltration as follows: In one there was a trace of perivascular infiltration around one of the smaller vessels of one kidney of a large number of sections examined. In a second rabbit there was a very slight, small, round cell infiltration in the subpelvic and intertubular tissue of one kidney. This was present only in one out of the large number of sections examined. In the other three rabbits there was a very slight degree of infiltration around one of the blood vessels in the kidney. We have never been able to find any changes in the bladder or ureters of any of the six control dogs or in the twelve control rabbits. In three guinea-pigs, used as a control, we also found no changes in any of the urinary organs. The known susceptibility of rabbits to all kinds of infection, and the fact that the infiltration was present in only a few places in the kidney, and here only where the lymphatics are found, rather confirms our experimental work than otherwise. The existence of a slight degree of ascending urinary infection in these control rabbits is not at all improbable. The relatively large number of normal control dogs (eleven) leaves, at least, experiments in these animals beyond every shadow of doubt, and some of our most positive results were obtained in dogs.

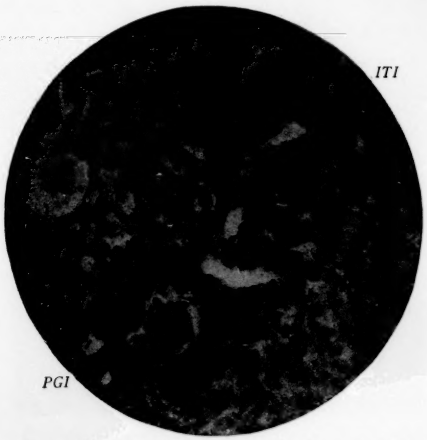

Fig. 6.—Section of rabbit's kidney from Experiment 310, showing typical infiltration around a glomerulus (*PGI*), and also between the tubules (*ITI*).

Fig. 7.—Section of dog's kidney from Experiment 418, showing an intertubular infiltration extending directly to the capsule of the kidney, showing how infection is carried from intrarenal lymphatics to those of the capsule and the perinephritic tissue.

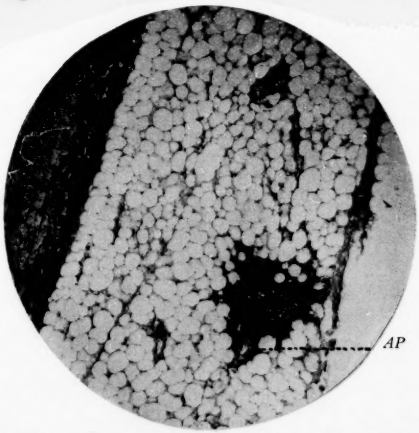

Fig. 8.—Longitudinal section of periureteral sheath of dog (Experiment 410), showing an area of dense inflammatory celled infiltration around a periureteral vessel (*AP*).

The only other experiments of a similar nature to our own were those of Hess[5] and Bauereisen. Hess

5. Hess: Mitt. a. d. Grenzgeb. d. Med. u. Chir., xxvi.

used *Bacillus coli*, and found perivascular infiltrations in the ureter in two dogs. Bauereisen found that in animals whose bladders were injected with an emulsion of tubercle bacilli, the infiltrations followed the

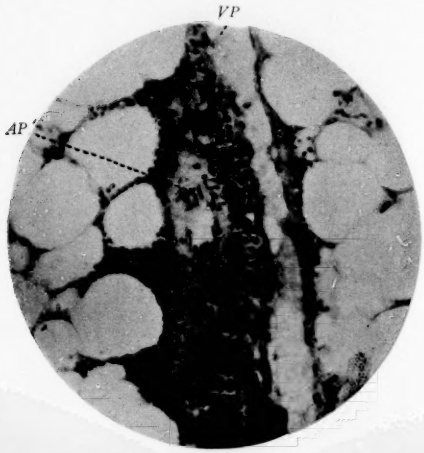

Fig. 9.—Longitudinal section of dog's ureter from Experiment 410, showing a vein longitudinally (*VP*) and an artery (*AP*) transversely with the infiltration in the wall and immediately adjacent to them in the periureteral sheath.

course of the lymphatics from the bladder to the ureter and then invaded the coats of the ureter from without inward.

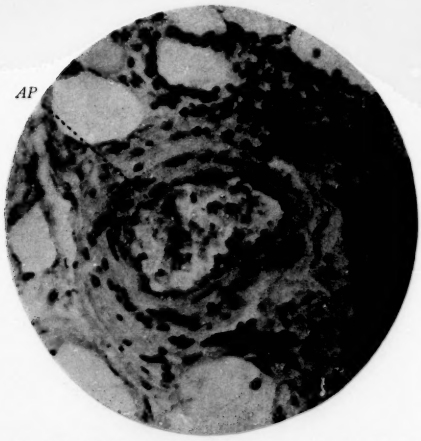

Fig. 10.—Longitudinal section of human ureter from case of ascending infection, showing marked infiltration around an artery (*AP*) in the periureteral sheath.

The many clinical applications of our experimental work along this line will form the subject of a future paper.

30 North Michigan Avenue.

SYPHILIS OF THE STOMACH

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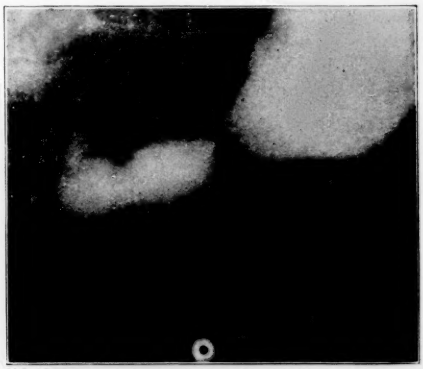
Gastro-Enterologist to the Georgia Baptist Hospital and the Atlanta Clinic
ATLANTA, GA.

E. W., man, aged 28, was referred to me, June 1, 1915, for regurgitation of gas, nausea, frequent vomiting, distress after eating, a continuous sensation of weight in the epigastrium and an excruciating gastralgia.

Up to the onset of digestive distress, which occurred six months previously, his past history was uneventful with one exception, a small sore on the penis when 20 years of age. This sore, having readily healed under local application, was almost forgotten.

The patient was somewhat cachectic in appearance, was losing weight, and his physician was fearful of gastric cancer.

Physical examination was negative. Gastric analysis showed absence of both free and combined hydrochloric acid, while a trace of lactic acid was present. A roentgenogram disclosed a distorted stomach evidently due to intragastric new growth. A Wassermann test was 4+.



Roentgenogram showing gummatous involvement of stomach. This roentgenogram, had it been interpreted apart from other findings, might have led to the erroneous diagnosis of gastric cancer.

The patient was at once put on antisyphilitic treatment appropriate for tertiary lesions, while for his dyspeptic symptoms, he received a simple carminative.

He was allowed a liberal soft diet at first, a light diet after ten days, and after a month a general diet.

His improvement, perceptibly noted three days after the first injection of salvarsan, has persisted, and at present he reports a practically comfortable and normal digestion.

The feature of interest in this particular patient was the difficulty in differentiating between syphilis of the stomach and cancer of the stomach. He was rather young for the latter, but age alone gives no positive evidence. Even the roentgenogram, unless interpreted in conjunction with the results of other investigations, would have been misleading in this individual.

Syphilis of the stomach, though rare, is now being diagnosed more frequently than in the past. Chiara found the specific lesions present in the stomach in but three out of 242 necropsies performed on syphilitic subjects. Lockwood, in 1913, estimated that there were on record only about fifty cases of gastric syphilis. It must be remembered, however, that ordinary ulcera-

tion of the stomach may occur in syphilitic persons with the same frequency as in those without the constitutional taint.

It is said that the late Hunter McGuire stated on one occasion that much of his success was due to the fact that in obscure manifestations of disease, he treated the patient for syphilis. This might apply with satisfaction to some of our long-suffering dyspeptics, who have run the therapeutic gamut without relief, who have become pessimistic invalids, burdensome to both themselves, their physicians, and the community at large.

922 Candler Building.

RADIUM IN THE TREATMENT OF SYNOVIAL LESIONS OF THE SKIN

RICHARD L. SUTTON, M.D.
KANSAS CITY, MO.

It is probable that the true nature of synovial lesions of the skin was first discovered by Sidney Jones and G. H. Makins[1] of London, but it is to the late James Nevins Hyde[2] that the general profession is indebted

Fig. 1 (Case 1).—Synovial lesion of the skin of eighteen months' duration.

for a classical description of the disorder. In the first edition of his treatise on diseases of the skin, he states that lesions of this type

> Occur in the form of wart-like projections from the skin, pseudovesicles, and bullae, always over the sites of bursae connected with tendons, traversing the small articulations of the hand and foot. They are seen over the metatarsophalangeal articulations; and in the hand most frequently over the dorsal face of the articulation between the distal and adjacent phalanges of the index finger and thumb. The first form is that of a roundish, corneous, pea-sized wart with a yellowish center, of long duration, usually insensitive unless roughly handled. When punctured there exudes a syrupy, yellowish, or grumous fluid, which continues to form after repeated puncture. Split-pea-sized vesicles, and bullae as large as a 50-cent piece, often exceedingly painful, are also seen, especially on the feet, with simply an epidermic roof wall. Each lesion contains the same yellowish or whitish fluid, occasionally mingled with masses like sago grains. In every case the contents of the lesions are supplied by a synovial bursa beneath the skin, with which the lesion is either directly connected, or in communication by a short sinus.

More recently Lingenfelter[3] has described a typical example of the affection occurring on the dorsal aspect of the third phalangeal articulation of the second digit of the right hand, in a woman aged 51. The lesion had

Fig. 2 (Case 2).—Synovial lesion of the skin of five months' duration. The inflammatory areola is due to the use of caustics.

been present for fourteen months. Pain of a sharp, stabbing character, radiating in all directions, was present at rather frequent intervals, and was usually succeeded by a throbbing ache. In a discussion of Lingenfelter's communication, Ormsby[4] called attention to Hyde's earlier investigations and report, and, in addition, described four cases which had come under his observation during the past eight years. Three of his patients were women, between the ages of 46 and 50, the other being a man, aged 66. The cause of the disorder is unknown. The microscopic and cultural findings were negative in Ormsby's cases. He says that an arthritic diathesis is strongly suggested.

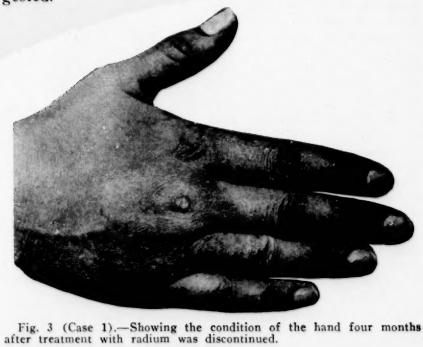


Fig. 3 (Case 1).—Showing the condition of the hand four months after treatment with radium was discontinued.

The lesions are extremely resistant to treatment. Hyde recommended complete excision or destruction of the secreting cyst wall. Lingenfelter employed the Roentgen ray with success. Ormsby also found the use of this agent curative in two instances, although

1. Jones, Sidney, and Makins, G. H.: Cited by Hyde, Diseases of the Skin (Footnote 2).
2. Hyde: A Practical Treatise on Diseases of the Skin, Philadelphia, 1883, p. 444.
3. Lingenfelter: Jour. Cutan. Dis., 1913, p. 647.
4. Ormsby: Jour. Cutan. Dis., 1913, p. 943; Diseases of the Skin, Philadelphia, 1915, p. 515.

he was compelled to resort to supplemental electrolysis in a third instance. On account of the patient's inability to remain in the city, energetic treatment was given with electrolysis, with apparent success, in his fourth case.

REPORT OF CASES

During the past year I have encountered two examples of the disorder.

CASE 1.—The first was in a married woman, aged 58, referred to me by Dr. C. F. Menninger of Topeka, Kan. The lesion, a smooth, rounded, pea-sized, fluctuant tumor, was located over the distal phalanx of the right index finger, and had been present eighteen months. It had been incised and drained on two different occasions, but each time the cyst had refilled, with syrupy, straw-colored fluid, as soon as the wound healed. There was intermittent pain, of a sharp, lancinating character. Treatment by electrolysis was refused because of the attendant discomfort, and as the patient could remain in the city for only a few hours, frequent applications of tincture of iodin, with compression by means of a small pad and bandage, were advised.

In a recent letter, the patient says that the lesion is much reduced in size, and that the pain has disappeared. It is probable, however, that permanent relief will be secured only by the adoption of more radical remedial measures.

Fig. 1.—Tumor, left side of larynx, above true cord, apparently distending the aryteno-epiglottidean fold.

CASE 2.—The second case occurred in a graduate nurse, aged 26, referred to me by Dr. J. Park Neal of this city. The lesion was located over the metacarpophalangeal joint of the index finger, and had been present five months. Clinically, it corresponded to the first form described by Hyde—a roundish, pea-sized, fluctuant nodule, having a depressed, yellowish center. Owing to frequent and repeated cauterization, and the use of picric acid and similar agents, the surrounding skin was inflamed and eczematous. Following puncture, considerable amounts of gelatinous, grumous fluid could be expressed through the opening. The patient said that the lesion varied in size at different times. When greatly distended, it gave rise to much pain and discomfort.

Because of the encouraging reports of Lingenfelter and Ormsby following Roentgen-ray therapy, it was decided to try only radium in this case. The fractional dose method was used, a one-fourth strength applicator, unscreened, being applied for one-half hour on eight successive days. Following the subsidence of the reaction, it was found that the lesion, with the exception of a small central cicatrix, had entirely disappeared. At this time, five months having elapsed, there is no sign of recurrence. The surrounding area of dermatitis responded readily to frequent applications of calamine lotion and zinc oil.

Lathrop Building.

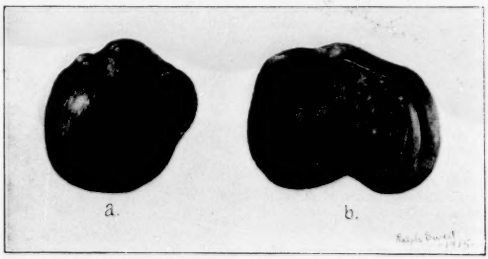


Fig. 2.—Gross specimen, actual size: (*a*) intact; (*b*) on section.

Requisites of Conversation.—The first ingredient in conversation is truth, the next, good sense, the third, good humor, and the fourth, wit.—Sir William Temple.

FIBROLIPOMA OF THE LARYNX *

GORDON B. NEW, M.D. (TOR.)
ROCHESTER, MINN.

After a careful review of literature I have been able to collect reports of only twenty-three cases of lipoma or fibrolipoma of the larynx. In 1899, Garel[1] presented a case before the Société française de laryngologie, and he had at that time collected reports of thirteen other cases from literature. In 1901 Garel presented "un cas d'aversion ventriculaire" before the same society. His patient died of pernicious anemia, and at necropsy the fibrolipoma was found. In 1908 the same author reported another case of a large lipoma of the larynx. He had collected reports of six additional cases of Calamida, De Santi, Goebel, Ingals, Meyjes and Laurens. In 1909, Goldstein,[2] presented a case of his own with a detailed summary of eleven other cases and a thorough discussion of the etiology and pathology of the condition. As far as I know, these, including the one presented in this paper, make twenty-four reported cases of lipoma of the larynx.

REPORT OF CASE

History.—Mrs. W. C. (Case 133172), aged 29, examined June 15, 1915, with unimportant previous history, complained chiefly of hoarseness which had lasted for eight years. She took cold eight years ago, lost her voice entirely for one week, and never fully recovered. A physician had been consulted at the time and had prescribed throat sprays and gargles, but did not make a definite diagnosis. Five years ago a physician was again consulted because of the hoarseness, and she was treated for bronchial trouble. One year ago her larynx was examined and she was told she had enlarged glands of the neck and catarrh of the head which was the cause of the hoarseness, and electric massage of the back of the neck was given. Seventeen months ago the patient noted a thickening of the left side of the neck, but it had not increased. While ill with measles three months ago she had spasms of the throat and great difficulty in breathing. When examined she had slight dyspnea on exertion, but felt perfectly well; there was no cough, no expectoration, no loss of weight. Blood pressure was 120 and 180. The urine and the Wassermann test were negative.

The nose and throat were negative, except for the laryngeal findings; there was a tumor in the left side of the larynx covered with normal-looking mucous membrane, apparently bulging the aryteno-epiglottidean fold. The left cord was not visible, and only the posterior third of the right cord could be seen. The tumor did not change its position during

* From the Mayo Clinic.

1. Garel, J.: Enorme lipome du larynx d'origine ventriculaire, Bull. de laryngol., otol. et rhinol., 1908, xi, 1. Calamida, De Santi, Goebel, Ingals, Meyjes, Laurens and Hunt are quoted by Garel.

2. Goldstein, M. A.: Lipoma of the Larynx, Laryngoscope, 1909, xix, 641.

respiration. It was quite elastic and easily indented with a probe. Its apparent size was 1 inch in diameter (Fig. 1).

Because of the unusual appearance of the tumor, it was thought best to remove it by thyrotomy. The possibility of the condition being an internal diverticulum of the larynx was considered before operating. July 24, 1915, under ether anesthesia, a thyrotomy was done by Dr. Judd. A midline incision was made, and the hyoid bone divided to give better exposure of the larynx. On the larynx being opened, a tumor was seen above the left true cord, dilating the arytenoepiglottidean fold. This was incised, and the tumor, which apparently had no definite pedicle, was readily shelled out. The patient's voice gradually improved after the operation. She was discharged, Aug. 17, 1915, and advised to return in three months for another examination. The excess of tissue on the left side of the larynx following the removal of the tumor prevented full return of the voice, and it seemed possible that the redundant tissue might have to be removed later by the intralaryngeal route. When the patient returned, Dec. 2, 1915, her voice was about normal, although a trifle lower in pitch than before the onset of the hoarseness. Examination showed the larynx normal save for a slight interference in the motion of the left cord and some slight scarring of the left side of the larynx. She stated that her general health had improved markedly since the operation.

Pathology.—The gross specimen was a round tumor 2.5 by 2.5 cm. in size with a complete capsule but no demonstrable pedicle. On section the periphery of the tumor was firm while the central portion was broken down and degenerated. Microscopic sections showed mostly fibrous tissue with some fat cells, while toward the central portion of the tumor the lipomatous tissues increased in amount. There were areas of degeneration in the section. The diagnosis was: degenerating fibrolipoma (Figs. 2 and 3).

Etiology.—Goldstein states that the etiology of lipoma is questionable, and that it may be due to one of three causes: (1) a simple hyperplasia of encapsulated fat-cells which Chiari has observed microscopically about the plane of the ventricle; (2) an invagination of mesodermic tissue which develops into lipoma, and (3) a disturbance in the chemistry of cells in which fat is deposited. It would seem that the pathology of these tumors does not differ markedly from the pathology of lipoma or fibrolipoma elsewhere in the body, but their presence in the larynx is unusual. In the case herein reported, the fact that the tumor did not have a pedicle and consequently a poor blood supply probably accounts for the central degeneration.

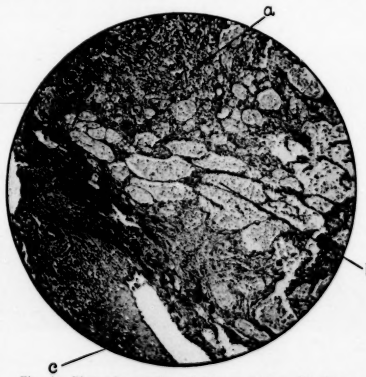


Fig. 3.—Photomicrograph: (*a*) fibrous tissue; (*b*) lipomatous tissue; (*c*) area of degeneration.

COMMENT

There is no age incidence in lipoma. The youngest patient reported in the literature was a boy 8 years of age (Ingals, 1905). Holt[3] in 1854 reported one in a man of 80 years, as does De Santi, in 1903. The point of origin of lipomas is usually the epiglottis, the aryteno-epiglottidean fold, or the ventricle, and they are usually attached by pedicles which are either quite thin or have thick, heavy bases. On account of its rarity, I mention here a case reported by Hunt (1907) of a lipoma attached to the first three rings of the trachea. The tumor was removed by external operation.

In the case I have reported, the lipoma was situated within and distending the aryteno-epiglottidean fold. It seems to be the only one reported in this position. There was no demonstrable pedicle. The possibility that the tumor originated in the ventricle must be thought of.

Lipomas may be multiple, as in the case reported by Goebel. In this case the tumor was attached to the left aryteno-epiglottidean fold, and to the posterior wall of the larynx; one prolongation of the tumor protruded into the mouth like a second tongue, while another portion extended into the esophagus. Golbek[4] and von Schroetter[5] have reported multiple lipoma.

Lipomas may also appear as small pedunculated polypoid tumors. They may be situated so as to fill the entire upper part of the larynx and give rise to marked dyspnea. In some persons dying of suffocation, lipoma obstructing the larynx has been found at necropsy.

DIAGNOSIS AND TREATMENT

In Garel's case a diagnosis of eversion of the ventricle of the larynx was made, and at necropsy the tumor was found to be a fibrolipoma of the ventricle. The picture presented in my patient brought up the possibility of an internal diverticulum of the larynx, the location and elasticity of the tumor indicating similar characteristics to such a condition. It is impossible, however, to make a definite diagnosis of this rare condition until the tumor has been removed and a microscopic examination made.

The small pedunculated lipoma, which can be definitely diagnosed by endoscopic methods, may best be cared for by endoscopic operation. In the large tumors in which it is impossible to make a definite diagnosis before operation, it is best to explore by a thyrotomy, so that whatever is necessary may be done with less likelihood of danger to the patient. I have seen so few cases of this kind, however, that it is difficult to draw definite conclusions regarding the methods of treatment.

3. Holt: Fatty Pendulous Tumor of the Pharynx and Larynx, Tr. Path. Soc. London, 1854, v. 123.

4. Golbek (or Holbek), M. K.: Lipoma multiplex arborescens aditus ad Laryngem, Protik. Zasiedamia. Imp. Kavkazsk. med. Obshtsh, Tiflis, 1891-1892, xxviii, 422, quoted by Goldstein.

5. Von Schroetter, L.: Lipoma des Kehlkopfes: Vorlesungen über die Krankheiten des Kehlkopfes, 1893, 271, quoted by Goldstein.

Nipa-Palm Alcohol.—The manufacture of nipa-palm sugar and alcohol in the Philippine Islands has already been referred to in THE JOURNAL. In British North Borneo, according to *Commerce Reports*, the total area of nipa swamp is greater than that of the Philippines, probably exceeding 50,000 acres which are easily available. The possibilities of alcohol manufacture from this source have been reported on by the American, D. M. Matthews, chief forestry officer of the island. It is said that 200 acres of nipa under proper management will yield 500 gallons of alcohol a day during six or seven months of the year when the sap flows. The probably extended use of alcohol as a motor fuel will no doubt encourage the exploitation of this source for alcohol.

HEMOTHORAX DUE TO RUPTURE OF ANEURYSM OF AORTA

REPORT OF CASE WITH RECOVERY, SECOND RUPTURE CAUSING DEATH

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AND
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In 1914, one of us[1] reported a case of hemothorax caused by a rupture of an aneurysm which presented an unusual feature, namely, recovery. The fact that aneurysms rupture infrequently (0.69 per cent. of all aneurysms), coupled with the fact that a search of the literature failed to reveal a similar instance, provided the reasons for reporting this case. We have seen recently a somewhat similar patient, one who had recovered from a rupture of an aneurysm into the left pleural cavity, but who eventually died following a massive rupture some time later.

REPORT OF CASE

History.—A. P., aged 59, married, locomotive engineer for the past thirty-five years, was admitted to the service of Dr. James E. Talley, Presbyterian Hospital, Oct. 20, 1915, complaining of pain in the abdomen, particularly in the left side; of pain in the back and about the heart, and of dyspnea.

The patient stated that he had had none of the usual children's dieases except scarlet fever. For the past fifteen years he had suffered with "rheumatism" in back which at one time confined him to his bed for four months. His joints have never been swollen or tender. In 1887 he had a sunstroke which incapacitated him for a year, and in 1879 he had gonorrhea. Syphilis was denied. He used to drink immoderately, but had not touched alcohol for some time. He drank tea and coffee moderately.

Aorta and adjacent parts: *A*, border of right lung; *B*, heart; *C*, aorta; *D*, dilated aortic arch; *E*, area of rupture; *F*, pericardium; *G*, atelectatic left lung.

The present illness dated from 1913, in which year he was admitted to the hospital, June 16. He was suffering at this time with pain in the epigastrium, in the left abdominal region, over the heart, and in the left lumbar region, and complained a great deal of dyspnea. He stated that six weeks before admission he had begun to be short of breath, which had increased until the date of admission. The pain began about a week before admission and was so severe that he was doubled up with it.

The main points in the examination at this time were the negativeness of the physical signs. The heart sounds were weak but regular, the pupils were equal, the pulses were equal and there was no impairment of resonance over the left chest.

The laboratory findings were a negative urine, secondary anemia, and a positive Wassermann reaction.

Patient was discharged improved, July 15, 1913.

On readmission to the ward in October, 1915, the patient stated that he had been unable to work since December, 1913, on account of pain in the chest, abdomen and about the heart, and because of shortness of breath. For the past ten days he had been confined to bed on account of anginal pains and dyspnea. The dyspnea was increased by exertion, but the anginal pains occurred even when he was lying quietly in bed. The patient complained of much weakness and loss of appetite.

About six weeks before admission he had an attack of pain so severe that he lost consciousness and fell fainting to the ground.

Examination.—The patient was a well developed plethoric looking man, past middle life. The eyes reacted sluggishly to light and to accommodation; the left pupil was larger than the right. During the examination, the patient was very restless and irritable, and seemed to be suffering with a great deal of pain in the left side of the thorax anteriorly and posteriorly and in the left abdomen just below the ribs.

The cardiac impulse was faintly seen and faintly palpable in the fifth and sixth interspaces, slighly outside the left midclavicular line. The right border of the heart was 4 cm. from the midsternal line and the left border 12.5 cm. There seemed to be a widening of the normal dulness over the aorta, particularly to the right. On auscultation the heart sounds were rapid and weak, with occasionally a premature beat, but no murmurs were heard.

The anteroposterior diameter of the chest was increased and the expansion was limited on the left side. Anteriorly the tactile fremitus was equal on the two sides. The percussion note was normal on both sides.

Posteriorly, the right revealed normal findings, but on the left side there was flatness from the spine of the scapula to the base of the lung, and over this area there was diminished tactile fremitus as far as the ninth rib, and below this no fremitus was felt. Breath sounds were absent over the base of the lung, but were faintly heard toward the upper level of the flat area. Egophony was heard in the posterior axillary line about the fourth and fifth interspaces. There was marked tenderness over the lower left chest and in the left abdominal region.

Patellar reflexes were normal, blood pressure 132 and 101, the pulses unequal, and the arteries were slightly sclerotic.

A sphygmographic tracing revealed extrasystoles.

An electrocardiographic examination was attempted, but on account of the patient's restlessness could not be made.

The urine was 1.020, and contained a faint trace of albumin and a few hyaline and granular casts. The phenolsulphonephthalein test revealed an output of 55 per cent. in two hours.

A blood examination revealed: hemoglobin, 78 per cent.; erythrocytes, 4,680,000; leukocytes, 6,350.

The Wassermann reaction was very strongly positive.

Examination by the ophthalmologist revealed a small hemorrhage in the macular region of the left eye.

Roentgenoscopy revealed a dense shadow in the left side, the heart seemed pushed to the right, and there was an indefinite shadow in the aortic regions, corresponding to the area of dulness found over the upper part of the chest at the region of the second and third ribs.

Treatment and Course.—A diagnosis of aneurysm of the arch of the aorta and of pleural effusion was made, and owing to the patient's dyspnea and pain thoracentesis was recommended. Aspiration was performed Oct. 23, 1915, in the eighth interspace posteriorly, and about 750 c.c. were withdrawn. At this time the patient suddenly collapsed, became almost pulseless and had the appearance of one deeply shocked. The fluid removed was pure blood. After the patient had recovered sufficiently to permit of an examination, the same physical signs were found as on previous examination.

1. Goodman, E. H.: Hemothorax Caused by Rupture of a Dissecting Aneurysm; Recovery, THE JOURNAL A. M. A., April 18, 1914, p. 1242.

Oct. 26, 1915, the patient died suddenly. A necropsy was made the same day by Dr. C. B. Farr, whose report, as it bears on the aneurysm, follows:

The left pleural cavity contained 1,900 c.c. bloody fluid. The left lung was almost completely atelectatic. The heart was apparently negative.

The whole aorta, thoracic and abdominal, was irregularly dilated. In the first and second parts of the arch the dilatation was cylindric; on the under surface of the third part of the arch was a rounded sac, the diameter of a dollar, filled with formed fibrous clots. Below in the lower thoracic portion was a huge hour glass sac with walls of laminated clots fully an inch in thickness. There was an extensive tear opening into the pleural cavity on the postero-external aspect. A large fairly firm clot found adjacent to the opening suggested that there had been an attempt at repair before the final and fatal rupture. Just below the diaphragm was a small saccular aneurysm on the posterior surface of the aorta. This had eroded a shallow rounded cavity in the interval between the first and second lumbar vertebrae at the expense of the bodies, and intervertebral. This cavity was sufficiently large to admit the tip of the thumb. The internal surface of the aorta exhibited the usual atheromatous plaques, etc. Sections taken from the wall of the aneurysm were examined for the *Spirochaeta pallida* by Dr. Pfeiffer with negative results.

Clinical diagnosis: ruptured aneurysm of the thoracic aorta with hemothorax.

Anatomic diagnosis: dilatation of the arch of the aorta, saccular aneurysms of the descending arch, thoracic aorta and abdominal aorta, rupture of the thoracic aorta with hemothorax, erosion of the lumbar vertebrae, atelectasis of the left lung.

Through the kindness of Dr. C. E. Filkins, of the resident staff at the hospital, the accompanying picture of the aorta was made.

COMMENT

It is our belief that at some time prior to admission to the hospital, Oct. 20, 1915, and at some time subsequent to his discharge from the hospital, July 15, 1915, rupture of the aneurysm had taken place. From his history we gather only one significant lead, and that is, that about six weeks before admission he fainted owing to an unusually severe attack of pain. Whether or not the aneurysm ruptured at that time it is impossible to state, but we do know that it must have ruptured at least six days before death, as on admission the physical examination revealed all the signs of fluid, which a subsequent thoracentesis proved to be bloody in nature.

We believe we have in this man an instance of two ruptures of an aneurysm, from the first of which the patient recovered, and from the second of which death immediately followed. The ordinary course of events in cases of ruptured aneurysm is for death to ensue in a few hours if it is not instantaneous. Just how long this patient lived after his first rupture we can only conjecture; but we are certain that at least six days must have elapsed, this being the number of days between the time we first saw him and his death. (See pathologic report describing attempt at healing.)

248 South Twenty-First Street.

Paranoia.—Tanzi says, "Paranoia is a rare form of constitutional anomaly which remains latent for years and manifests itself in mature age in a partial but most persistent delusion which is only the slow and permanent triumph of a perception. This perception gradually conquers all evidence to the contrary—and becomes organized into a coordinate system of errors which become the tyrants of the intellectual personality. On the other hand, the presence of a circumscribed delusion does not disturb the individual's judgment on other subjects."

PERITONITIS FOLLOWING ACUTE OVARITIS OF ANGINAL ORIGIN

RUSSELL M. WILDER, M.D.
CHICAGO

Hemogenic disease of the ovaries, arising by metastasis from disease of the tonsils or other distant foci of infection, is a condition which is probably far more common than is usually supposed, and may account for some of those cases of peritonitis which, because of their obscure origin, are referred to as idiopathic or primary peritonitis. Slavjanski,[1] Pfannenstiel[2] and others recognize the occurrence of ovaritis as a sequel of general sepsis, measles, typhoid, cholera and other infections, but the instances recorded are few and the general tendency of gynecologists is to consider ovarian disease as gonorrheal infection ascending from the lower genital tract.

The following considerations suggest that a considerable proportion of diseased ovaries are infected with streptococci rather than with gonococci, that these streptococcus infections are commonly blood-borne from some distant focus, and that certain cases of idiopathic peritonitis are in reality the result of such ovarian infections.

Rosenow,[3] by the use of special methods, isolated streptococci in fourteen out of twenty-five ovaries showing chronic and cystic degeneration. Riedel[4] has reported nine cases of purulent salpingitis in young girls who were operated on for suspected appendicitis. Fructus[5] and others have had a similar experience.

It is significant, furthermore, that of all the reported cases of so-called primary peritonitis, a strikingly large proportion have occurred in female patients. This is true of primary pneumococcus peritonitis (Dieulafoy,[6] Lenormant and Licene,[7] Michaut[8] and Ehringer[9]), but to a greater extent of primary streptococcus peritonitis. Ehringer has collected ten instances, of which eight were in females. De la Chappelle[10] found twenty-one cases in the literature, and of these, sixteen were in females; De la Chappelle has reported in addition a series of twenty-three cases of peritonitis occurring during the course of an epidemic of acute sore throat at Helsingfors, and of these twenty-three cases, fourteen, or 61 per cent., were in females. A predilection for females so striking as this surely suggests that the sex organs play a significant rôle in these cases of primary peritonitis, and one wonders on reading over the recorded necropsies that more detailed attention has not been paid to the tubes and ovaries. Microscopic examinations are not mentioned, and the absence of gross changes is accepted as sufficient evidence of the normality of the ovaries. It is quite possible, therefore, that many such cases were primarily instances of ovaritis or salpingitis, and if this is true it is more than probable that they were metastatic infections from the

1. Slavjanski: Bull. Soc. anat., 1886.
2. Pfannenstiel, in Veit's Handbuch der Gynäkologie, iv, 63.
3. Rosenow, E. C.: The Newer Bacteriology of Various Infections as Determined by Special Methods, THE JOURNAL A. M. A., Sept. 12, 1914, p. 903.
4. Riedel, quoted by Fructus (Footnote 5).
5. Fructus: Arch. gén. de chir., 1913, ix, 944.
6. Dieulafoy: Manuel de pathologoie interne, 1911, ii, 667.
7. Lenormant and Licene: Rev. de gynéc. et de chir. abd., 1905, ix, 225.
8. Michaut: Thèse, Paris, 1901.
9. Ehringer: Thèse, Paris, 1906.
10. De la Chappelle: Arb. a. d. Path. Inst. d. Univ. Helsingfors, 1907, ii, 583.

throat, because in nearly every instance they occurred during the course of a tonsillitis.

In a very few of these cases the ovaries were carefully examined and the definite pathologic condition discovered. This is true of the reports by Leyden,[11] Kunzel[12] and Schwers.[13]

REPORTS OF CASES

Leyden's patient was a girl, aged 20, of previous good health, who fell ill, June 17, with vertigo, sore throat and fever. June 22, the general symptoms became markedly worse, and abdominal pains began. The patient died, June 28, with all the signs of acute peritonitis. Necropsy revealed a liter of purulent exudate in the abdomen, *edema of the ovaries, and reddening and swelling of the abdominal ends of the tubes.* The sexual organs were virginal. The uterine mucosa showed a gray, pseudomembranous tumefaction; stomach, intestines and appendix were of normal appearance. *The tonsils were greatly swollen and congested.* No microscopic examination of the tissues was made, and the bacteriology of the infection was not studied, but the edema of the ovaries and swelling of the abdominal ends of the tubes suggests that they were the cause of the peritonitis.

Kunzel's patient, Maria B., was brought to the hospital in a state of unconsciousness. Subsequently a history was obtained to the effect that she had complained of a sore throat a few days before the beginning of her illness. Death occurred on the night of her admission to the hospital, and a necropsy was made. The bowel was hyperemic and especially congested in the pelvis. In the pelvis were 500 c.c. of a dark brown fluid mixed with flakes of pus. The appendix was only moderately hyperemic. The mucosa of the stomach, both large and small bowels and appendix was pale, and showed only slight enlargement of the follicles. Remains of menstrual changes were visible in the uterus. *The tubes were bright red, especially at their abdominal ends,* where they were distended with mucus and pus. On the contrary, their uterine ends were smaller and with small lumens. *The ovaries were deeply injected, and covered with a firm membrane. Both tonsils were enlarged to the size of walnuts.* Cultures from the peritoneal fluid yielded the *Streptococcus pyogenes* "var. long.," and from the tonsils the same organism. From the uterus a *Bacterium coli* and *Micrococcus pyogenes citreus* were obtained.

Schwer's patient, a child aged 2, with a grave peritonitis, when first seen had been ill for two days, constipated for twenty-four hours and vomiting for twelve hours. The temperature was 40.9 C. (105.6 F.), the pulse 168. The abdomen was tender and slightly resistant, both on the right and the left sides. An appendicular perforation was suspected, and the child was operated on at once. A thin nonodorous serous secretion was found in the abdomen. There were no adhesions, but some recent fibrinous exudate covered certain parts of the intestines. The intestines were everywhere hyperemic, the congestion increasing toward the pelvis, where it attained its maximum at the right tube. The appendix and other abdominal organs were intact. Death occurred four hours after the operation, and at the necropsy the following pathologic condition was observed: an *acute purulent infection of the entire genital tract, vulvovaginitis, endometritis and bilateral salpingitis. In addition, small purulent follicles were seen in the tonsils.* Bacteriologic examination of the pus removed at the operation gave a pure streptococcus. The pus from the vagina contained only streptococci; there were no gonococci. The pus from the tonsils was not examined.

To these three cases I add a fourth, a personal observation.

Ruth B., aged 6 years, was seen, August 19, on account of a sore throat. For two days she had felt feverish. The bowels were constipated and the appetite was poor, but there was no abdominal pain. Examination revealed a temperature of 103 F., a flushed dry skin, dry lips, and a heavily coated tongue. The pharynx was hyperemic and the tonsils were large, edematous, hyperemic, and studded with discrete millimeter white patches. The lymph glands of the submaxillary region and those of the upper part of the posterior cervical triangles were enlarged and tender. In all other respects the examination was negative. August 20, the patient showed marked improvement, the soreness of the throat was gone, and the temperature was reduced to 99 F. She was not seen on the 21st, but from the mother's report felt perfectly well on this day until evening, when she had two loose bowel movements and complained slightly of pain in the lower part of the abdomen. August 22, she was found in a serious condition, with a temperature of 102 F., a rapid pulse, and rapid respiration. The abdomen was greatly distended, tympanitic and tender. This tenderness was greatest in the lower quadrants, but was *equal on the two sides.* There was no vaginal discharge. The right shoulder joint was tender but not swollen. The condition of the throat had improved. The urine contained no albumin or pus. A leukocyte count was 28,000, with polymorphonuclears comprising 90 per cent. A diagnosis of peritonitis was made, and although the prospects were unfavorable, the patient was operated on by Dr. Dwight Clark. At the operation the peritoneum was found hyperemic and lusterless, and in the pelvis was a small amount of thin pus. The appendix seemed normal. A drain was inserted, but the child died forty-eight hours later.

At the necropsy the following conditions were observed: The abdomen was distended and tympanitic, the intestines being ballooned with gas. A thin, serous, nonodorous exudate occurred in small amount in the pelvis. Both the parietal and the visceral layers of the peritoneum were very slightly hyperemic over the upper half of the abdomen, but were more intensely injected over the lower half and an angry red in the pelvis. A membranous gelatinous exudate 1 to 2 mm. thick occurred in the folds of the mesentery and covered part of the floor and walls of the pelvis. The intestines showed no perforation, no volvulus and no diverticula. The cecum and appendix were slightly hyperemic, but with this exception appeared normal. The mucosa of the stomach and bowel appeared normal. The mesenteric lymph glands were uniformly enlarged and hyperemic. Liver, spleen and kidneys showed extreme cloudy swelling, but were otherwise normal. The gallbladder appeared normal. Microscopic examination of the ovary, tubes and uterus revealed in the tubes and uterus an extreme degree of hyperemia but no hemorrhages. In the lumen of the tubes there was no exudate. In that of the uterus was a small collection of leukocytes, half of which were mononuclears. *The ovaries showed, in addition to passive congestion, small hemorrhages, and in the ovarian tissues a few diplococci with short chain streptococci were found.* Cultures of the abdominal fluid obtained at operation resulted in the pure growth of gram-positive noncapsulated diplococci and short chain cocci belonging to the streptococcus group. The organism appeared on blood agar as a small, circular, moist colony, gray, and producing marked hemolysis. Its growth was best under anaerobic conditions. Inoculation into rabbits gave negative results.[14]

This case bears a striking resemblance to those of Leyden, Kunzel and Schwers. In all an ovaritis is suggested by the pathologic reports, and in my patient the anatomic diagnosis of ovaritis is certainly justified by the minute hemorrhages and the presence of diplococci in the ovarian tissues. In all four cases an associated angina suggests that the throat was the portal of entry of the infection. In all four cases a peritonitis developed. In all, the sequence of events seem to have been acute sore throat, later ovaritis and then peritonitis.

11. Leyden: Deutsch. med. Wchnschr., 1884, x, 258.
12. Kunzel: München. med. Wchnschr., 1904, li, 1920.
13. Schwers: Arch. de méd. d. enfants, 1914, xvii, 441.

14. For this description of the organism and for the report of the animal inoculations I am indebted to Dr. F. W. Gaarde, and for the microscopic sections to Dr. B. O. Raulston.

It is to be regretted that the other reported cases of so-called primary peritonitis did not have more attention directed to the state of the ovaries, as it would seem probable that acute hemogenic infection of the ovaries was the explanation of the peritonitis in many of them, and it is to be hoped that in all future cases of supposed idiopathic peritonitis the possibility of a hemogenic ovarian infection will receive consideration.

Presbyterian Hospital.

Special Article

WHAT THE CIVILIAN DOCTOR CALLED TO ACTIVE SERVICE WITH THE ARMY SHOULD KNOW

(*Concluded from page 509*)

III. DUTIES IN THE ZONE OF THE ADVANCE

In this zone can be expected to occur most of the casualties due to contact with the enemy. While still concerned with sanitary measures, the medical officer is here more occupied in rendering first aid and in the evacuation to the line of communication of the wounded. In a brief summary of these subjects in such an article as this it is impossible to do more than outline the duties of the medical officers in this zone and to refer to the authorities who instruct in the details.

There will be considerable difference in the sanitary service performed with troops fighting a war of position, as on the western border of France today, or with troops fighting field engagements and moving a number of miles from day to day either in advance or retreat; however, the units with which these duties must be performed are the same in either case.

First aid to the wounded and the collection of them begins with the regimental service; in other words, the sanitary troops assigned to duty with a regiment are here employed. As circumstances permit, the wounded are given first aid, collected by litter bearers and moved back, when practicable, to the aid stations of their own organizations. The position of these depends on many factors, and a discussion of them would demand a short article in itself. From here they are sent on to dressing stations, established under the order of the division surgeon or the director of the ambulance companies. These stations are part of the ambulance companies and, consequently, are supplied with wheeled transportation which is used to transport to the rear those requiring it, after the wounded have been examined and sorted over.

Ordinarily these ambulances carry their patients to field hospitals, which are hospitals only in name, and are really collecting stations at which further examination and care may be given to the wounded. How thorough this may be depends on military exigency and the number of wounded passing through them. They are not supplied with beds, and it is not expected that their patients will remain in them for more than a very short period of time.

The war of position in France has developed a new unit—in reality a flying surgical hospital of a capacity of 100 patients, manned by a staff of expert operating surgeons, the equipment carried on four motor trucks. It is planned that on two hours' notice this unit can travel 20 miles and have its operating room and ward set up ready for work. It is proposed to treat here only those wounded who are too severely injured to endure transportation, and those for whom immediate surgical interference is necessary in order to save life. From the field hospital, which is a divisional organization and which is highly mobile, and is expected constantly to accompany the division to which four of them are assigned, a patient, as promptly as possible, is sent to the evacuation hospital.

With the greater numbers involved in the present European war, even these evacuation hospitals are hospitals only in name: indeed, the English have recently changed the name from "evacuation hospital" to "casualty clearing stations," as, when possible, the patients were sent on to more permanent hospitals, and finally to the general hospitals previously referred to, where patients are cared for who cannot expect to return to the colors within a considerable period of time, if at all. The evacuation hospitals, as previously stated, are, strictly speaking, in the line of communications; in conjunction with the field hospital it is the station for the final treatment of only the slightly wounded.

In this organization of the medical force a plan has been attempted to provide highly mobile units, such as the ambulance companies of the field hospital companies, which keep up in the field with the division to which they are assigned. In a way these units with the station for the slightly wounded act as sieves which sift out the disabled who may be expected to return at once or within a few hours to the fighting line; to determine those who within a day or two, provided the troops are not moving forward, may be expected to rejoin, and finally to let through to the line of communications for further care and examination those for whom the division cannot hope for speedy return.

For those medical officers on duty with hospitals or stations for the slightly wounded, whether the former are in the zone of the advance or on the line of communications, are added the responsibilities of providing food for the patients whom they may have in their charge. While this is supplied through the quartermaster's department, and partly by the medical department, responsibility, nevertheless, rests on the medical officer to see that it is done. Indeed, some of the worst trials borne by disabled soldiers have been not so much the wounds suffered as hardships because of lack of food and shelter.

The point should be urged that the duties of medical officers on the line of communications and in the zone of advance cannot be performed satisfactorily in time of war without special training. It is not sufficient that a medical officer be professionally competent, or indeed a skilled specialist, to meet successfully the demands on him in the field. A line officer might individually be an excellent marksman but fail wofully in the administration of a line unit through lack of experience.

The conditions of no war have been met without avoidable suffering to the wounded. Even in the highly organized armies of western Europe, where it would seem that all possible forethought had been exercised and all preparation made, the wounded have often died because of the inadequacy of an organization to care for them.

To the skeptical who do not agree with the necessity of preparedness in this particular field, we would invite their perusal of the following official document, and in doing so remind them that it is dated more than one year after the beginning of the Civil War. The letter

is written with reference to the battlefield of Second Bull Run and *ten days* after it opened; sorrowful to relate, it effected nothing in the way of the organization asked for:

Surgeon General's Office,
Sept. 7, 1862.

Honorable Edwin M. Stanton,
Secretary of War.

SIR:—I have the honor to ask your attention to the frightful state of disorder existing in the arrangement for removing the wounded from the field of battle. The scarcity of ambulances, the want of organization, the drunkenness and incompetency of the drivers, the total absence of ambulance attendants are now working their legitimate results, results which I feel I have no right to keep from the knowledge of the department. The whole system should be under the charge of the Medical Department. An ambulance corps should be organized and set in instant operation. I have already laid before you a plan for such an organization, which I think covers the whole ground, but which I am sorry to find does not meet with the approval of the general-in-chief. I am not wedded to it. I only ask that some system may be adopted by which the removal of the sick from the field of battle may be speedily accomplished and the suffering to which they are now subjected be in future as far as possible avoided.

Up to this date six hundred wounded still remain on the battlefield in consequence of an insufficiency of ambulances and the want of a proper system for regulating their removal in the Army of Virginia. Many have died of starvation, many more will die in consequence of exhaustion, and all have endured torments which might have been avoided.

I ask, sir, that you will give me your aid in this matter; that you will interpose to prevent a recurrence of such consequences as have followed the recent battle, consequences which will inevitably ensue on the next important engagement if nothing is done to obviate them. I am, sir, very respectfully,

Your obedient servant,
WILLIAM A. HAMMOND,
Surgeon General.

If this was true after more than a year's fighting, it undoubtedly would be true, as has been demonstrated recently in Europe, of the first months of any war that involved several hundred thousand troops, unless we forestall such emergencies by adequate medical arrangements.

The interest, then, being shown today by the medical profession of the United States in adequate training and numbers of medical officers is warranted by our past history and by present history in Europe. Such civilian members of the profession as are devoting time to this subject are performing not only a patriotic duty but also a duty to humanity.[1]

Certain physical and mental qualifications are at present demanded of physicians entering the Medical Corps of the regular army, and even in time of war it is probably best that they remain as fixed at present. They are to be found in Circular of Information, Form 132, War Department, Surgeon General's Office, April 26, 1912.

The physical requirements are about those demanded of recruits, except that the standards of vision are not so exacting. Local boards for conducting these examinations are convened from time to time, as required, at the larger military posts, usually during the months of January and July.

The examination consists of two parts — the preliminary examination and the final, or qualifying, examination, with a course of instruction at the Army Medical School intervening. The mental examination is written and embraces the following subjects:

Anatomy, physiology and histology, chemistry and physics, materia medica and therapeutics, surgery, practice of medicine, obstetrics and gynecology. It takes nearly a week to conduct.

Successful applicants are usually then placed on temporary duty as active members of the Medical Reserve Corps, and at the proper time brought to the Army Medical School at Washington, D. C., for special instruction lasting eight weeks, at the end of which time the qualifying examination is held. This examination covers the instruction given and is practical as well as written. If successfully passed the officer is commissioned in the Medical Corps of the regular army.

However, in times of national emergency, when large numbers of troops must be used, the services of many physicians will be needed in the zone of the interior, and here those who are at an age at which field service would be too exacting, and others who are incapacitated physically for severe and prolonged effort, may be employed with advantage. Indeed, any competent medical men who are able to carry on active practice in civil life could meet the demands of duty at base and general hospitals which the government will have to establish in numbers. There is also a demand for all specialties in the hospitals of the zone of the interior, and for many general surgeons with special surgical units. Under these circumstances, the examination for medical officers to obtain commissions would be such as may be prescribed by the Secretary of War, and probably would be physical and oral. In fact it can safely be stated that under these conditions great weight will be given to the reputation and standing of the doctor in his community. Credible reports indicate that the Austrians have provided hospital accommodations on the basis of 40 per cent. of the number of troops employed. This means that the service of every Austrian physician must be utilized to a greater or less extent by the military authorities. Indeed, it has been reported that in some places it has been difficult for civilians to secure medical attention, so general was the demand by the military authorities for medical service.

The number of medical officers of the regular army authorized by law is 444. This number was fixed by Congress on the reorganization of the Medical Department in 1909, and was the allowance for an army of 65,000, which was the size of the United States Army at that time. It is necessary to employ now about 100 civilian physicians either as contract surgeons or as Medical Reserve surgeons to assist in performing the required duties in the army, which now numbers about 100,000.

Authorities consider that in time of war medical officers should be in the proportion of 1 per cent., that is, a thousand medical officers for every 100,000 troops. About half of these would be with the troops in the field, and the other half would be necessary to care for the sick and wounded on the line of communications and for duty in the hospitals and mobilization camps in the zone of the interior.

Plans are under way for holding, during the coming summer, camps of instruction for medical officers of the National Guard and of the Medical Reserve Corps at Anniston, Ala.; Tomyhanna, Pa.; Sparta, Wis.; Fort Riley, Kan., and Monterey, Calif.

1. Books to be consulted: Straub: Medical Service in Campaign, Ed. 2, United States Field Service Regulations, 1914. Morrison and Munson: Study of Troop Leading and Management of the Sanitary Service in War.

Therapeutics

AURICULAR FIBRILLATION

That this condition should receive immediate attention, and that digitalis in large doses is of marked benefit in most cases, at least for a time, are generally recognized.

The prognosis depends on the condition of the heart muscle. If the myocardium is intact, this peculiar nervous upset, the heart having lost its governor, so to speak, will be rapidly and more or less permanently cured by digitalis through the stimulation by this drug of the vagus nerves, thus causing normal inhibition and a consequent slowing of the heart.

Although such a patient may have been incapacitated, he may not yet have acquired a dilated heart; consequently, he will not need the digitalis long continued. If, through some kind of heart strain, he has a recurrent attack of fibrillation, he must again receive digitalis. On the other hand, if a patient who has auricular fibrillation also has dilatation, caused either by prolonged heart tire or from the fibrillation, or if the fibrillation is superimposed on an already dilated heart, while the digitalis (if not already given in large doses) will stop, or at least greatly improve the fibrillation, still the dilated heart must be treated as such, namely, by rest, digitalis and other careful regimen, that is, careful diet, gentle catharsis, and other general measures. If the fibrillation is caused by the dilatation, the prognosis, with digitalis and rest, is good. If the fibrillation is superimposed on the dilatation with a chronic myocarditis, the prognosis is bad under any treatment.

White[1], after studying 200 heart cases, finds that auricular fibrillation and alternating pulse, as well as heart block, are more frequent in men than in women; and both auricular fibrillation and alternating pulse are more likely to occur after 50 years of age than before. Auricular fibrillation may be a symptom developing in hyperthyroidism, in cardiac sclerosis, in syphilitic hearts, and rarely in rheumatic hearts. Excessive use of tea and coffee can cause the condition, and occasionally the cause may be tobacco.

Hering[2] finds that ventricular fibrillation may be the main factor in sudden death from angina pectoris.

TREATMENT

The treatment of auricular fibrillation is rest, digitalis, and a diet of nonstimulating food, in small bulk, given three or four times in twenty-four hours. The stomach should not be distended to press on or irritate the heart. Tea, coffee, alcohol, strychnin and any other nervous stimulant should be prohibited.

The dose of digitalis (the preparation must be a good one to be of value) should be large to act properly and positively on the vagus nerves. In the case of auricular fibrillation the heart should be slowed, but it is not especially advisable (unless the heart is dilated) to increase its muscular power, although of course the ventricles will unavoidably be stimulated. As in turning on the power of any engine or machine, the full dose of digitalis should not be given at first; the heart should not be shocked. Tincture of digitalis should be given in ascending doses, on the first day, 5 drops after breakfast, 10 drops after luncheon, and 15 drops after the evening meal. On the second day the dose should be 20 drops after breakfast. If the heart is not markedly slowed, 25 drops should be given at noon, but none at night on this day. If the heart is still not slowed to at least 90 beats per minute, 30 drops should be given on the morning of the third day.

In from thirty-six to forty-eight hours from the beginning of the treatment, the heart should be beating at the rate of from 80 to 90 times a minute, and all cardiac distress should have disappeared. The digitalis should then be given twice a day, in more or less rapidly diminishing doses, depending on the symptoms, and it should thus be continued for one or two weeks.

It should be emphasized that the proper dose of digitalis is "enough" to do the work. With a strong preparation the beginning dose should be small; with a weaker preparation larger doses should be given from the start. The limit of dosage is the result obtained. It should be remembered, however, that digitalis is very slow to act, and that it is very slowly eliminated, so that large doses must not be long continued, lest a bad effect, that is, a cumulative effect, be produced on the kidneys.

If there is kidney insufficiency, or if the output of urine becomes much lessened in amount, digitalis should be immediately stopped, and should not be again given for several days. If, after there is improvement in the fibrillation and the pulse has become markedly diminished, infrequent cardiac pains occur, too much digitalis is being given.

1. White: Boston Med. and Surg. Jour., Dec. 2, 1915.
2. Hering: München. med. Wchnschr., Nov. 2, 1915.

PULSUS ALTERNANS

Instead of this being an unusual condition, White[1] shows that it is not infrequent, as demonstrated by graphic pulse tracings. He found it present in seventy-one patients of 300 examined.

Pulsus alternans is "that condition of the pulse in which strong and weak beats alternate, but in which the cardiac rhythm is normal." The alteration may be constant, or it may occur in phases.

He finds this character of the pulse to occur in about one third of all cases of decompensation. About half of the cases show increased blood pressure, 160 mm. or more, and 62 per cent. of the cases were in patients over 50 years of age, and 69 per cent. were in men. Arteriosclerosis is a strong factor, and necropsies on patients who had had this symptom in life showed coronary sclerosis and arteriosclerotic kidneys.

The prognosis as to length of life in patients who have this condition is not good. Digitalis and rest in bed improve the general condition of the majority of patients, but White found that in only four patients out of fifty-three so treated was the pulsus alternans either "diminished or banished." The administration of digitalis in cardiac deficiencies does not cause the condition of pulsus alternans.

This interesting symptom in heart cases, as White has shown, is of considerable prognostic value, but it can be positively determined only by some graphic means of registering the pulse.

1. White: Am. Jour. Med. Sc., July, 1915, p. 82.

Low Grade Infection and Hygiene.—To guide individuals so that they may be not only protected from the incidence of insidious, low grade infection, but also rendered resistant to micro-organisms which, in nature of things, must inevitably gain entrance to their bodies, requires a close study of the new science of personal hygiene and a painstaking effort to apply its principles.—Eugene Lyman Fisk, M.D.

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THE SIGNIFICANCE OF FERMENTED MILKS

As fermented milks of diverse sorts have come into use not merely as foods but also as products of reputed therapeutic and prophylactic value, physicians should have a clear understanding of their manufacture and chemical nature. In many of the larger cities, special fermented milk preparations can be obtained under various trade names which supplant the more familiar terms buttermilk, kefir, koumiss and yoghurt. The latter types, however, include the most important varieties that are well known, so that an understanding of their origin ought to give a fairly clear appreciation of the possibilities in this field.[1]

Almost every one who has had any acquaintance with farm life or dairy products knows the process leading to the production of buttermilk as a by-product in butter making. It is not so generally appreciated, however, that in recent years much of the so-called buttermilk sold for human use in this country is prepared by fermenting skimmed milk, which remains as a by-product of the cream trade. It is simply soured skimmed milk which has been churned or stirred in order to break up the curd. The same product is sold also under the name of "ripened milk." The souring of milk or cream is brought about by the activity of certain bacteria which form lactic acid by decomposing the milk sugar (lactose). The ability to form acid from lactose and other sugars is possessed by many kinds of bacteria, but is so characteristic of a certain group that they are commonly spoken of as the lactic acid bacteria. Such fermented milk, though not literally buttermilk, is scarcely distinguishable from the latter, and may be even richer in actual nutrients. This beverage can now be made in the home if good buttermilk is not a readily purchasable commodity in the community.

The conspicuous fermentation product in buttermilk, as in the other varieties of fermented milks, is lactic acid. In some types alcoholic fermentation may also be prominent, so that alcohol and carbon dioxid are added to the milk mixture. The reaction whereby an alcoholic is added to the ordinary acid fermentation is due to yeasts.

One of the first of the fermented milks known to Europeans was the kefir, made from the milk of sheep, goats or cows in the Caucasus Mountains and neighboring regions. Kefir differs from most of the fermented milks of the Mediterranean countries in that it is made from a dried preparation and contains considerable quantities of alcohol and gas. According to an expert of the Bureau of Animal Industry, it is probable that kefir is produced under different circumstances by different organisms. Any combination of bacteria or of bacteria and yeasts that will produce a lactic acid and a mild alcoholic fermentation in milk will make kefir, although to secure the most desirable flavor certain organisms may be essential. Kefir grains, which start the proper fermentation, cannot ordinarily be obtained in this country, but a good imitation of kefir can be made by carrying on simultaneously in sealed bottles an alcoholic and a lactic fermentation. Better results can be obtained by inducing the alcoholic fermentation in buttermilk. Ordinary bread yeast may be used for alcoholic fermentation; but as this yeast does not ferment lactose, it is necessary to add cane sugar to the milk.

Koumiss, in its original sense, was a fermented beverage prepared from mare's milk. Unlike kefir, there is no dried "ferment," "seeds" or "grains" with which the fermentation of the mare's milk is started. Native koumiss makers lay great stress on the quality of the milk, the breed of the mares, and the condition of the pastures; but it is probable that their troubles ascribed to variations in these conditions are more likely attributable to imperfectly controlled bacteriologic factors. According to Rogers,[1] the koumiss which is often made and offered for sale in this country is usually made from cow's milk, and therefore, more correctly, is kefir.

Kefir and koumiss are limpid, mildly acid, and distinctly alcoholic; yoghurt, leben and matzoon are thick-curdled milks, decidedly acid, with very little or no alcohol. Different organisms are involved in the fermentation. In some of the "yoghurt buttermilk" now sold in this country, the results are obtained with a combination of the essential *Bacterium caucasicum* and an ordinary lactic acid organism such as is used in making buttermilk. Yeast is a contamination, not a desired component, if present in this case.

These fermented milks have attracted attention in recent years, not primarily because of their food value, but because of inherent specific peculiarities of composition and texture. For example, it is believed by many that the finely divided casein as it occurs precipitated in these preparations is more easily digested than the curds formed in the stomach after drinking ordinary

1. The subject is reviewed by L. A. Rogers (Fermented Milks, Bull. 319, U. S. Dept. Agric., Jan. 18, 1916), on which some of the statements here made are based. Copies of the publication may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents a copy.

milk. The proteins and fats of these beverages are not materially changed by the micro-organisms; but the lactic acid has been credited with favorable influences in the alimentary tract. The most prominent claim of the fermented-milk therapy widely heralded in popular magazines directs emphasis on the possibility of establishing the acid-producing bacteria in the intestinal canal to suppress the putrefactive type. To what extent there is a probability of establishing conditions there under which they will multiply and persist, while the objectionable types are driven out, has been previously discussed in THE JOURNAL.[2] The situation is summed up by Rogers[1] by saying that while there is no conclusive evidence that *Bacillus bulgaricus* is able to establish itself in the intestines in such a way that other bacteria are driven out, it is undoubtedly true that in many cases marked improvement has resulted from the ingestion of milk cultures made from it. It is by no means certain, however, that the results which have been obtained by the use of milk cultures have been attributable to any peculiar virtue in the organism itself. It has been held by some investigators that the intestinal flora may be radically changed by a fundamental change in the diet. The beneficial effect of a sour-milk diet is attributable, perhaps, not so much to the bacteria contained in the milk as to the milk itself, which provides material for an acid fermentation in the intestines.

After all, the fermenting of milk is a means of preserving it without undesirable types of decomposition, and in a form wholesome and agreeable for human consumption. There are without doubt patients for whom the presence of soured milks in contact with the alimentary mucosa would not be acceptable; yet fermented milks are so well tolerated in many cases that their use should in general be encouraged from the standpoint of nutrient values, and welcomed quite apart from the "autointoxication" therapy program.

MEDICAL PREPAREDNESS AND THE ARMY

Republics are proverbially forgetful; in them lessons learned by bitter experience have only a transient influence. The Spanish-American War occurred less than twenty years ago. In this war, the most dangerous enemy which our soldiers had to meet was not the Spaniards but disease in our own camps. The records of the War Department show that in 1898, out of an army of 200,000 men, there were 21,000 cases of typhoid fever with 2,192 deaths, and that the Second Division of the Seventh Army Corps, encamped at Jacksonville, Florida, in 1898, had 2,693 cases of typhoid with 248 deaths out of only 10,759 men. Nor were such results surprising when one recalls the conditions existing at the beginning of the war. The machinery of the small regular army in existence at that time had suddenly to be expanded to fit a large army of volunteers. The size of the staff proved entirely inadequate to the task. There were not enough trained military surgeons in the country to care properly for the soldiers. Lack of medical supplies, inability to deliver supplies at needed points, lack of familiarity on the part of civilian surgeons with military methods, hospitals without proper equipment, surgeons with little or nothing with which to work, sick men without proper care or suitable nourishment — these were some of the occurrences which should have taught, for all time, the necessity of a trained force of men, skilled in surgery and familiar with army routine, to care for the sick and wounded in future wars. Yet what are the facts?

In less than ten years after the Spanish war the President in a special message to Congress stated that the medical corps was not only much smaller than was needed for the regular army in times of war, but was too small even to perform the duties demanded of it in peace. The long fight from 1904 to 1908 for the reorganization of the Army Medical Corps must surely be fresh in the minds of most of our readers, if not of the public. In the spring of 1908, Congress finally passed the army medical reorganization bill, providing 443 medical officers for an army of about 65,000 men, a ratio of seven medical officers for each thousand men, the proportion which had been recommended by the surgeon-general's office and which is accepted by military and sanitary experts generally as the minimum ratio. This law is still in force. In the meantime, the army has been increased by congressional enactment to over 90,000 men, an increase of nearly 50 per cent. For this increased army not a single additional medical officer has been provided. As stated by Surgeon-General Gorgas before the House Committee on Military Affairs, "Our relative number of trained medical officers is not as great now as it was at the beginning of the Spanish war. We then had seven per thousand, now we have about five per thousand."

In the face of these facts and with the memory of our inexcusable loss of life from disease in the Spanish war, it is difficult to understand why, in the numerous bills now before Congress for preparedness and national defense, not one of them provides for increasing the Medical Corps of the army, even beyond its present inadequate condition, to say nothing of providing for a medical staff in any way commensurate with an army of sufficient size to be effective for national defense. One bill increases the army to 140,000 men; another provides for an increase of 75,000 men; one bill in the Senate, it is true, provides for an army of 210,000 men with a medical service of 898 officers; but this is an actual reduction in the proportion of medical officers to 4.28 per thousand. In

2. The Survival of the Bacillus Bulgaricus in the Alimentary Tract, Current Comment, THE JOURNAL A. M. A., Oct. 2, 1915, p. 1191.

none of the bills now pending is there any evidence that the medical and sanitary needs of the army have been given adequate consideration. Yet the military experiences of the entire world during the last twenty-five years demonstrate clearly that an adequate, well-equipped, well-trained medical service is of the most vital importance to the effectiveness of any military plans. While this has long been recognized as true, it is today, with our vastly increased knowledge of disease prevention and modern sanitation, of far greater importance than ever before. No matter how capable a surgeon may be in civil life, he cannot be converted into a competent and effective army surgeon over night.

The army medical officer must have scientific training and experience, plus training in military methods, camp sanitation and the proper care of large bodies of men in the field. He must be prepared to solve the various problems peculiar to military life. As stated above, the minimum should be seven medical officers for each thousand men, and this ratio should be maintained no matter to what size the army may be increased. The present medical corps, carefully selected and highly trained as its individual members are, is too small even to do the necessary work in times of peace. General Gorgas states that there are, in readiness, hospital and medical supplies for an army of 300,000 men, but that it would take time to train a sufficient number of medical officers for such an army. If the harrowing and disgraceful occurrences of the Spanish-American War are not to be repeated, and if we are to profit by the bitter experience of the past, then any plan for enlarging the army, whether by regular enlistment, volunteers, compulsory service or what not, must provide for a corps of trained medical men capable of safeguarding the health of the army.

RECENT EXPERIMENTS RELATING TO THE ENDOCRINE GLANDS AND DEVELOPMENT

Among all the recent observations destined to direct attention to the possible relations of some of the ductless glands or organs with endocrine functions to the growth and development of individuals, few have presented more striking phenomena than those reported by Gudernatsch.[1] His exceptional experiments indicated, briefly, that if thyroid is fed to young tadpoles, development in the sense of a rapid differentiation of the parts proceeds with extreme rapidity, so that apparently perfect frogs of minute size speedily result. This differentiation in a developing vertebrate organism may be so rapid that within eighteen days after hatching, a stage is reached which would ordinarily require many weeks for its attainment. Thymus, on the other hand, had the power to stimulate growth, while lacking that of exciting differentiation; so that thymus-fed tadpoles experience a rapid growth but fail to be brought to metamorphosis within the usual period.

Abderhalden[2] of Halle has extended the use of this method of investigation for the purpose of ascertaining the nature of the active substances present in physiologically potent glands and tissues. He has confirmed the contentions of Gudernatsch[1] and of Romeis[3] respecting the potency of animal tissue extracts on the development of certain species. Abderhalden's experiments bring the added evidence that the substances responsible for these unique and almost startling effects are not to be identified with the proteins or their more complex derivatives; for even after prolonged digestion of thyroid and thymus tissue to the stage at which the usual protein test fails, the products are still potent when tested on tadpoles. From a quantitative standpoint very small amounts of substance suffice to bring results. To the physiologic chemist there is some significance in the fact that the active "principles" are readily diffusible after the digestions.

Other organs have been drawn into the field of study; and by the use of combinations of the digestion products of thymus, thyroid, pituitary and ovarial substance, bizarre results have been noted. To quote these in detail, to recite the varied distortions of form and manifestations of disproportionate growth or development might merely lead to inadvisable or untenable analogies. Speculation should not be stimulated to the point at which therapeutic possibilities are suggested with unjustified readiness. The fact that complete digestion with gastric, pancreatic and intestinal ferments does not destroy the particular potency of the gland substances under discussion may, however, have a bearing on the use of organic extracts in human therapy. It helps to furnish a probable explanation of the fact that many gland preparations, such as the unaltered dry substance of the thyroid, is confidently believed to exhibit pharmacologic responses even when administered by mouth. Evidently some of the "active principles" are not destroyed in the course of alimentary digestion. Up to the present time the attempts with salts of various inorganic elements to reproduce the characteristic effects brought about by thymus and thyroid substance have failed.

1. The Thyroid and Thymus in Relation to Development, editorial, THE JOURNAL A. M. A., July 4, 1914, p. 34.

2. Abderhalden, E.: Studien über die von einzelnen Organen hervorgebrachten Substanzen mit spezifischer Wirkung, I, Verbindungen, die einen Einfluss auf die Entwicklung und den Zustand bestimmter Gewebe ausüben, Arch. f. d. ges. Physiol., 1915, clxii, 99.

3. Romeis, B.: Experimentelle Untersuchungen über die Wirkung innersekretorischer Organe, II, Einfluss von Thyroidea- und Thymusfütterung auf das Wachstum, die Entwicklung und die Regeneration von Anurenlarven, Arch. f. Entwcklngsmechn. d. Organ., 1914, xl, 571; Der Einfluss verschiedenartiger Ernährung auf die Regeneration bei Kaulquappen (Rana Esculenta), I, ibid., 1913, xxxviii, 183. Cotronei, O: Première contribution expérimentale à l'étude des rapports des organes dans la croissance et dans la métamorphose des amphibies anoures: L'influence de la nutrition avec la thyréoide des mammifères, Arch. ital. de biol., 1915, lxi, 305.

A REPORT ON TOMATO KETCHUPS

The Department of Agriculture of Pennsylvania has recently issued an interesting bulletin[1] on "Tomato Ketchups." The report is made by Prof. Charles H. LaWall, chemist to the Dairy and Food Bureau, based on analyses which he and Leroy Forman have made. In April and May, 1915, on an order from Food Commissioner Foust of Pennsylvania, 142 samples of tomato ketchup were collected in the state of Pennsylvania. These represented 135 different brands. The samples were examined to determine the total solids so as to give a basis for comparison from the standpoint of actual values expressed in the form of dry material. The total soluble-solids also were determined, these giving an idea as to the cellular tissue contributed by the pulp, spices, etc. The volatile acids, expressed as acetic acid, were found for the purpose of studying this point as a factor in connection with the question of the presence or absence of preservatives. The character of the color of the various products, whether natural or artificial, a search for saccharin and preservatives, with an estimation of each and a tabulation of the results of a microscopic examination, completed the details of the investigation.

The bulletin gives a list of the brands examined, together with the statements of essential facts that appeared on the labels. The data obtained in the investigation are analyzed, and furnish much interesting and valuable information. It is shown that the price of ketchup is almost as variable as the names of the various brands, varying from 4 ounces for ten cents to 7½ ounces for five cents. The average price of each ounce of ketchup examined was one cent. The amount of solid matter in the ketchup shows even greater variation than the price.

One fact to which the bulletin calls particular attention is that not one of the 142 samples contained any artificial color. This is a marked improvement over the results reported by the Connecticut investigation made five years ago, when 12 per cent. of the samples were found to be artificially colored.

Even more remarkable is the fact that while the investigation of 1910 showed that ninety out of every hundred preparations contained chemical preservatives, the Pennsylvania report shows that today 76 per cent. contained no chemical preservatives. The 24 per cent. that contained preservatives had, in every instance, benzoic acid (added in the form of sodium benzoate). In no case was any preservative found in products claimed to be free from it. In discussing the chemical preservative question, the bulletin states that it is probable that the underlying cause of the marked improvement with respect to preservatives is "the fact that manufacturers have found it cheaper in the end to maintain sanitary conditions and effect, through sterilization of the product, the desired end, than to depend on the uncertain and questionable efficacy of a preservative."

The report further declares that the number of manufacturers who use preservatives is likely to be still further decreased if the European war continues. Sodium benzoate, which before the war sold for less than fifty cents a pound, now sells for more than five dollars a pound; in fact, at the present time "the cost of the sodium benzoate in a pint bottle of ketchup . . . is nearly as great as the cost of the tomatoes present." It may be agreed that "the sodium benzoate controversy bids fair to be settled in a most interesting and unexpected manner."

The ketchup manufacturers who in the past have defended the use of sodium benzoate have advanced as one of their stock arguments the claim that where sodium benzoate is not used it is necessary to use large and even injurious amounts of vinegar or acetic acid and spices in order to preserve the ketchup. The Pennsylvania report shows that "so far as the spices are concerned there appears to be no essential difference between the samples containing preservatives and those without." In the matter of acidity the report discloses an interesting state of affairs. The average acidity of all samples containing sodium benzoate was 1.19 per cent. calculated as acetic acid. The average acidity of those that contained no sodium benzoate was 1.43 per cent. In other words, there is less than one-fourth of one per cent. difference in the acidity of the two classes of ketchup. As the Pennsylvania chemists point out, this effectually disposes of the contention that a high acidity is necessary in ketchups that are not chemically preserved.

Not one of the specimens of ketchup examined by the Pennsylvania authorities was found to contain saccharin. The report will do much to strengthen the confidence of the public in a food product whose use is well nigh universal.

1. Tomato Ketchups, Bull. 272, Department of Agriculture, Dairy and Food Bureau, Harrisburg, Pa.

THE BEHAVIOR OF THE UTERUS AND OTHER ORGANS TOWARD MORPHIN AND SCOPOLAMIN

In "The Pharmacology of Useful Drugs," by Hatcher and Wilbert, recently reprinted from the columns of THE JOURNAL,[1] occurs the following in reference to the morphin-scopolamin narcosis, abandoned by the majority of operating surgeons because of numerous attendant fatalities, but recently exploited in a sensational manner as a preliminary to childbirth:

> Effective doses are not very dangerous to the mother, in the hands of those who have mastered the difficult technic of its use, but labor is frequently prolonged by its use, and the death rate among the new-born from asphyxia is certainly higher than with other methods in the hands of the general practitioner.

1. Hatcher, R. A., and Wilbert, M. I.: Pharmacology of Useful Drugs, Chicago, 1915, p. 71.

In this case, as has often happened in the history of medicine, the empiric use of drugs has preceded their more exact investigation.

One might naturally expect that in these days of scientific research, the systematic clinical use of a potent if not actually dangerous drug would be based on or at least fortified by some definite and adequate knowledge of the pharmacologic behavior. This cannot be said to have occurred in the exploitation of "twilight sleep." The staunchest supporters of this method of anesthesia admit that morphin and scopolamin, even in small doses, may prolong labor. Thanks to researches in the pharmacologic department of the Yale University School of Medicine, encouraged by the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association, and to other recent studies, more accurate information of the action of morphin and scopolamin on the uterus is now available.[2] Studies of the combined action of these drugs on the central nervous system indicate that this mixture exhibits a true synergism; that is, the narcotic effect of the combination has appeared more profound than the algebraic sum of the effects of the same doses given separately. Smith,[3] working in the pharmacologic laboratory of the University of Michigan, has attempted to determine whether the synergism of morphin and scopolamin is limited only to their narcotic effects, or whether it is more general in scope. For this purpose, experiments were made on intact frogs, and then the effect of the combined drugs on the cardiac functions was studied by perfusion of the isolated frog's heart as well as on warm blooded animals. It appears, according to Smith, that the scopolamins are synergistic with morphin in the frog, and likewise in the mouse, in the latter case probably through their combined action on the respiratory center. A synergistic action is also shown in the case of the frog's heart. The toxicity of the scopolamin-morphin combination in the mouse is increased with the relative increase of the scopolamin content of the combined dose. In such cases the levorotatory scopolamin is more toxic than is the inactive scopolamin or atroscin.

In the case of the direct action of these drugs on the isolated uterus, no synergism or antagonism has been discovered by Barbour.[2] In experiments on animals decerebrated so as to exclude the participation of the central nervous system in the responses to the drugs, Barbour found that neither morphin nor scopolamin causes profound changes in the activity of either the pregnant or nonpregnant uterus. A temporary increase in tone is often seen after the use of both drugs. If the drugs produce a marked depression of the circulation, a relaxation of the uterus may result indirectly. Barbour therefore concludes that the statement that large doses of these narcotics inhibit the activity of the uterus is not applicable to any direct action of morphin or scopolamin on this organ. The delay in labor produced by either or both of these drugs is probably due entirely to their cerebral action. This valuable information points the way to combat in a rational manner some of the difficulties that are liable to arise when the morphin-scopolamin anesthesia is employed in practice.

2. Barbour, H. G., and Copenhaver, N. H.: The Response of the Surviving Uterus to Morphin and Scopolamin, Jour. Pharmacol. and Exper. Therap., 1915, vii, 529. Barbour, H. G.: Morphin and Scopolamin Action upon the Intact Uterus, ibid., p. 547.

3. Smith, M. I.: The Synergism of Morphin and the Scopolamins, Jour. Pharmacol. and Exper. Therap., 1915, vii, 407.

PAWLOW

When it was announced about eleven years ago that the Nobel prize had been awarded to Ivan Petrovitch Pawlow, professor of physiology in the Military Academy of Medicine at Petrograd, in recognition of his work on the physiology of digestion, few knew of his work or why the prize was awarded to him. At that time Pawlow had over twenty-five years of his prolific career in biology behind him, but his "Work of the Digestive Glands" in a summarized form, available for those not versed in Russian, had only just been published. On another page[1] appears an announcement of his death and a short biographic notice.

When Pawlow was called, in 1890, to take charge of the physiologic division of the new institute for experimental medicine in Petrograd, he was afforded an opportunity to fit up a laboratory for investigations in digestion. He had long recognized the great objections to "acute" experiments as a means of studying the digestion processes. His studies had already given him an appreciation of the influence of traumatic and psychic factors in the activities of the digestive organs. He had learned that to approximate the truth about the physiologic activities of the digestive glands by experimentation, the normal relations of the blood and nerve supply to the organs must be left practically undisturbed; the animals used must be operated on and then cared for with all the procedures obtaining in the best surgical clinics, so that observations on them could be made after complete recovery from operations and the removal of all pain and distress. It required a carefully planned institute to meet all these desiderata. The success of Pawlow in setting up such a model institute, and in demonstrating to experimenters in physiology the necessity of fulfilling these requirements, are not the least of his achievements that have benefited science.

He had previously made important contributions to the physiology of the digestive system, having already published his experiments on sham feeding, which showed the importance of stimuli in the buccal cavities and of the vagus nerve for the activation of the gastric

1. General News, THE JOURNAL A. M. A., this issue, p. 585.

glands. But once being provided with his elaborate and well-manned institute and liberal means, he proceeded systematically to execute his brilliantly conceived plans. The results of activities in this laboratory have furnished information not only about the function of each of the parts of the digestive system, but also of their cooperative actions under normal conditions. Apart from the clear comprehension of the digestion processes as such that have been gained, and their immense value to medicine, is the far-reaching importance of his demonstration of the influence of psychic effects on body processes. Of course, this must have been vaguely recognized ever since man was capable of introspection, and experimental demonstrations of it were not wanting before Pawlow's time. He first furnished such demonstrations in pure form, with the greatest possible elimination of factors other than psychic.

His studies were guided by the thought that the adaptation faculty of the organism furnishes the key. It must be said, however, that later investigations have not wholly confirmed the reality of some of these adaptations, especially those of more acute or temporary nature, such as the quality of the saliva depending on the nature of the stimulus, the power of the gastric juice on the kind of food ingested, or the quality of the pancreatic juice being affected by dietary constituents. His ideas about the nervous activation of the pancreas and about the predominating importance of the psychic factor in activating the stomach gland have also suffered some modification. The great service which he has rendered physiology, however, is as much recognized as ever, not alone on account of the facts he has furnished, but also for the initiation of improved methods for gaining knowledge.

Though he himself opened up many questions in the mechanics and chemism of the alimentary tract, his predilections seemed to be for a study of the relations of reflex and psychic processes to body functions. Recently, therefore, his attention and that of his co-workers had been devoted to the phenomena which he named condition reflexes. In a word, this is the associated effect of some stimulus through the organs of special sense, or of some psychic process, on reflexes. As the results of this work have not been drawn up and given to the world in systematized form, they have not yet attracted deserved attention.

The Gospel of Systematic Living.—Our public health departments, medical schools, laboratories of research, our scrutiny of industry, safeguarding of schools, are contributing each in its field to the vast array of fact, on which will ultimately be founded an intelligent structure of systematic living. Beyond any question, however, interpretation of this gospel must finally rest in the medical profession. Interpretation, however, is but the first word in progress. The last word is cooperation of the public, induced by every available activity in education.—Henry B. Favill, *Pennsylvania Med. Jour.*, November, 1915.

Current Comment

ANOTHER INSTANCE OF MILK-BORNE TYPHOID

Attention has frequently been called in THE JOURNAL to the increasing number of reports of milk-borne outbreaks of typhoid fever. This is doubtless due in part to the improvement which has taken place in the character of public water supplies, so that epidemics due to milk infection are brought more clearly to notice now than when they were inconspicuous ripples on the large typhoid wave. Some of these reports carry a significant lesson. One of the most recently reported typhoid outbreaks due to milk is that occurring a few months ago in the town of Gallup, New Mexico.[1] Although the town is not a large one (population, 1910, 2,204), there were eighty-seven cases in the epidemic described. Definite sources of infection were found in the neighborhood of the incriminated dairy. The point we wish to comment on especially is the total lack of any supervision which might have prevented this outbreak. The county health officer is paid only $300 per annum, and this sum seems to be intended for the care of patients at the county hospital. It appears that no one is directly charged with the protection of the water and milk supplies or with any other sanitary duty. In a word, a small sum was appropriated for care of the sick, but not one cent for preventive measures. In this respect Gallup differs no whit from thousands of communities all over the United States. The most elementary facts of hygiene are ignored in the conduct of community affairs, and an appalling amount of preventable disease is not prevented. It is evident that much is still to be accomplished in educating the average citizen to understand and support the demands of preventive medicine.

THE TOXICITY OF ARSENOUS AND ARSENIC ACIDS

Compounds of arsenic are becoming so prominent in therapy, and the types of arsenic products for use in medicine have become so diverse, that any information bearing on their possible mode of action should be welcome. The familiar derivative of arsenic which early found its way into use both as a drug and as a poison is the white arsenous oxid, often itself spoken of simply as arsenic. The salts of arsenous acid are also employed, as in Fowler's solution. Arsenic action is not due to the element, but to the ion of arsenous acid, H_3AsO_3. Organic arsenic compounds in which the metallic atom is attached directly to carbon are only feebly toxic. In the course of time, within the body they seem to yield more or less arsenous acid, a reaction which may suffice to explain any pharmacologic potency possessed by the organic derivatives. It is a somewhat unexpected fact that the closely related arsenic acid H_3AsO_4, its anhydrid and its salts are far less poisonous than is arsenous acid. This statement has now and then been disputed, but only recently

1. Smith, F. C.: Milk-Borne Typhoid Fever: Report of an Outbreak at Gallup, N. M., Pub. Health Rep., Jan. 14, 1916, p. 59.

again substantiated at the pharmacologic institute of the University of Berlin by Joachimoglu.[1] The relatively greater toxicity of arsenous in comparison with arsenic acid could be demonstrated by the proportion of 10:6 in the case of the lethal dose required for intravenous injection in animals. Perfusion experiments with isolated frogs' hearts indicated the arsenous compounds to be 300 times as harmful as those of arsenic acid. In the case of the isolated intestine the contrast, though plain, was not equally striking. This has raised the question why there should be a marked disproportion in the relative toxicity of comparable quantities of arsenic and arsenous acids, depending on the mode in which the test is made. The explanation proposed is as follows: The toxicity of the arsenic acid depends on the reducing power of the tissues with which it comes into contact. By this means it is converted into the very poisonous arsenous compound. Some individual organs or tissues have comparatively slight reducing potency. In the isolated heart, for example, arsenic acid exhibits little toxicity. Throughout the living organism as a whole the reduction of arsenic acid appears to be far more readily accomplished; hence, after intravenous administration of the ordinarily less nocuous derivative, it may become more toxic so promptly by conversion to arsenous acid that the real difference between these related arsenic derivatives is no longer conspicuous. This may also explain some of the uncertainty or confusion which has existed in the past in respect to the comparative action of the two substances.

REPORTED DANGERS FROM ENAMEL WARE

Among the thousand and one causes given for appendicitis, enamel chips from cooking utensils have been included. We are informed[2] that the Superior Council of Hygiene for France recently recommended that legislation be enacted forbidding the use of enamel ware meat choppers in the production of Hamburger steak. It was observed that the enamel on such machines was in many instances almost entirely worn off, and the assumption was made that the small particles of enamel which had become broken off were quite likely to be mixed with the meat. To avoid all possible danger from the consumption of such particles, this action was taken. Langworthy and Lang,[2] of the Office of Home Economics in the U. S. Department of Agriculture, state that there appears to be no case on record in which it is known that any serious injury has been done to the intestinal wall by enamel particles. They call attention, however, to another feature of the now widely used enamel ware articles which is somewhat more likely to be a source of hygienic danger. In coloring the enamels, pigments are sometimes added in the form of one of the metallic oxids. Insoluble materials are also incorporated into the "glass" of which the enamel is essentially composed, in order to render it opaque instead of transparent. For this lead oxid has been used to some extent, particularly because it helps to produce an easily fusible product. Lead enamels, like lead glasses in general, offer a poor resistance to chemicals, and are quite readily attacked even by substances which have no action whatever on ordinary glasses which contain no lead. The government experts now venture the statement that the use of lead compounds for these purposes, and of lead oxid for producing an opaque appearance, fortunately is fast being discontinued in the manufacture of enamel ware and cooking utensils on account of the possible danger of lead poisoning, since the lead in this form is easily dissolved by dilute acids, like vinegar and the acids of fruit juices. With regard to possible dangers from the use of antimony salts to impart desired tints to some kinds of enamel, it is said that preliminary experiments, made in the Department of Home Economics of the University of Illinois, apparently showed that small amounts of antimony compounds were extracted when dilute solutions of organic acids were cooked in some of the cheaper grades of enamel ware. It is now possible, however, to secure enamel ware utensils which, according to the manufacturers' labels, are free from antimony compounds.

1. Joachimoglu, G.: Vergleichende Untersuchungen über die Giftigkeit der Arsenigen Säure und Arsensäure, Biochem. Ztschr., 1915, lxx, 144.

2. Langworthy, C. F., and Lang, H. L.: Enamels of Cooking Utensils, Jour. Home Economics, 1915, vii, 556.

DID YOU BITE?

Do you want five dollars? If so and if you are sufficiently prominent, the "patent medicine" interests will gladly send it to you. Possibly it will be for a mail-order diagnosis and treatment. For example: You may receive a letter from a lady in some outlying country town who says that she has heard of your skill in treating diseases peculiar to women. She has a daughter who is suffering from dysmenorrhea, menorrhagia or what not, and she is afraid that the girl will "go into consumption." Enclosed please find a money order for five dollars. Will you not kindly send her a prescription (preferably in liquid form) for the purpose of helping her daughter's condition? Of course, diagnosing disease in and prescribing for patients one has never seen will hardly qualify as the scientific practice of medicine. But the "patent medicine" interests are apparently willing to part with all the five-dollar bills that are necessary in order to obtain these long-distance prescriptions and diagnoses. Possibly, however, a variant is tried. You may be called up by 'phone and a man will tell you that his wife is suffering from some ailment peculiar to her sex and desires to be operated on. What will you charge for the operation? You may mildly suggest that this question cannot intelligently be answered until you have seen the lady and gone into the case thoroughly. Then the gentleman at the other end of the wire will ask you whether it is not a fact that you charge according to the ability of the patient to pay rather than according to the seriousness of the operation. Or possibly the scheme may have yet another angle. If you are a rather well-known internist or a gynecologist of note an attempt may be made to get you to write a prescription containing, as at least one of the ingredients, viburnum prunifolium — a preparation not unknown to the

"patent medicine" world. Many other changes are being rung, for this is a time of stress with "patent medicine" fakers, and in order to defend their nefarious trade they are seeking to manufacture evidence of *argumentum ad hominem* type. Such evidence may be considered valuable in prosecuting libel suits against the medical profession.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Periodicals for Library.—The library committee of the Jefferson County Medical Association, Birmingham, has subscribed for thirty-one medical periodicals published in the United States and abroad.

Colored Physicians Organize.—Colored physicians of Birmingham have organized a medical union for race uplift and have elected the following officers: president, Dr. Ulysses G. Mason; vice president, Dr. Pierce S. Moten; secretary, Dr. M. H. Freeman, Jr., and treasurer, Dr. C. O. Booth.

Personal.—Dr. Cecil D. Gaston has been appointed city physician of Birmingham, succeeding Dr. Charles Whelan, resigned after seventeen years' service. Dr. Gaston has also been appointed a member of the staff of the Hillman Hospital.——Dr. Benjamin L. Wyman, Birmingham, has been appointed a member of the state board of health to succeed Dr. Russell M. Cunningham, Birmingham, resigned.——Dr. W. Earle Drennen, Birmingham, has resumed practice after two terms of service in war hospitals in France.——Dr. Edwin P. Solomon has been appointed chief surgeon of the Alabama Great Southern Railroad at Birmingham, succeeding Dr. W. Earle Drennen, resigned.

DISTRICT OF COLUMBIA

Admissions from District to Government Hospital for the Insane.—Voluntary admissions of residents of the District of Columbia into the Government Hospital for the Insane are proposed in a bill recently introduced into Congress for that purpose. Application for admission must be in writing, and the mental condition of the applicant must, in the opinion of the superintendent of the hospital, be such as to render him competent to make such an application. No person after having been admitted shall be detained in the hospital for more than three days after having given notice in writing to the superintendent of his desire to leave the institution.

Common Use of Drinking Cups Regulated.—Regulations governing the common use of drinking cups, towels and similar articles went into effect on February 1. The use by the public generally of any unwashed cup, mug, glass or similar article, or of any towel, is forbidden. Cups, mugs, glasses, forks, spoons, towels and similar articles used in hotels, restaurants, lunch rooms, stores, shops, schools, office buildings and places of amusement must be thoroughly cleaned after each use, whether for use by the public or only by patrons and employees. Hotels, restaurants, lunch rooms, bar rooms, soda water fountains, hospitals and other similar places must be provided with facilities not only for cleansing but also for sterilizing cups, mugs, drinking glasses, forks, spoons, finger bowls and all bottles, jars, cans and other receptacles to be refilled for sale; and after July 1, 1916, such articles must be not only cleansed but also sterilized after each use.

ILLINOIS

Immunization Against Diphtheria.—Beginning February 20, the state board of health announces that it will furnish free to all physicians outfits for making the Schick tests for ascertaining persons who are immune and those who are susceptible to diphtheria.

Chicago

The University Club Poisoning.—At the banquet given to Archbishop Mundelein at the University Club, February 10, a number of guests were taken suddenly ill after the soup course had been served. It was at first announced that the illness was due to ptomain poisoning, but chemical analysis of the soup disclosed the presence of arsenic. Recent developments indicate that an assistant chef, evidently of anarchistic tendency, was responsible. Happily no serious consequences followed.

Chicago Physicians Leave for War Service.—Dr. and Mrs. Harry M. Richter, Dr. Jacob R. Buchbinder, Dr. Joseph Loewe and two nurses making up the first hospital unit to go from Chicago to Germany left for the war front, February 14. Dr. Richter will relieve Dr. John Fischer of the German Hospital, New York, who has been in charge of a 500 bed hospital at Oppeln, near the Russian frontier.

INDIANA

Health Survey.—A health survey of Indianapolis schools will be started under the direction of the board of health, March 1. Already there have been over 300 anemic children referred to the board of health.

Doctors Win Damage Suit.—The appellate court, Indianapolis, decided in favor of Dr. John Kolmer and Dr. Albert W. Miller in the case of suit for damages brought by Fred W. Adloy on account of an alleged failure properly to set a fracture of the arm.

Baby Conferences.—Health conferences for infants have been held during the past two weeks at Butler, where over 200 infants were examined, and also at Auburn, where also a careful examination was made of all infants submitted. The health conference is run by Dr. Florence Brown Sherbon, Colfax, Iowa, of the federal children's bureau.

State Sanitary and Water Supply Association Meets.—The Indiana Sanitary and State Water Supply Association held a joint meeting with the Iowa Engineering Society in Indianapolis, February 3, at which the keynote of the addresses was "A Century of Progress in Sanitary Engineering." In the absence of Surgeon-General Gorgas, U. S. Army, Dr. Frank B. Wynn, Indianapolis, of the Indiana Centennial Commission, spoke commending the association for the introduction of the centennial idea into their meeting; Prof. Charles W. Stiles, U. S. P. H. S., spoke at the afternoon session on the health of the southern states, and in the evening Dr. Cressy L. Wilbur, chief of the Division of Vital Statistics of the New York State Health Department, made a strong plea for more complete and more rigidly enforced vital statistics laws in the United States.

IOWA

Laboratory Opened.—The clinical laboratory of the Waterloo Medical Society was formally opened with a reception, January 21; Dr. Guthrie McConnell is in charge of the laboratory.

Honor Medical Pioneers.—In honor of Drs. Joseph C. Krejci, Grant J. Ross, John M. Knott and John N. Warren, who have been in active practice for forty-five years or more, physicians of Sioux City who are affiliated with the Woodbury County Medical Society gave a banquet, February 3, at which Dr. William Jepson acted as toastmaster. A silver vase suitably inscribed was presented to each of the guests of honor, who responded by giving brief reminiscences of their experiences in Iowa in the early days.

Personal.—Mr. Walter F. Clowes, New York, has been elected secretary of the Iowa Association for the Prevention of Tuberculosis.——Dr. Campbell P. Howard, Iowa City, has returned after service of a year with the expeditionary forces in France. Dr. Howard was second in command of a hospital at Boulogne which accommodated 6,700 patients.——Dr. Will D. Runyon, assistant superintendent of the State Sanatorium for Tuberculosis, Oakdale, has been appointed resident physician in the National Printers' Home, Colorado Springs, Colo.——Dr. James W. Beck, Conrad, fell on a slippery pavement, January 31, fracturing his right humerus near the shoulder.——Dr. Ralph W. Mendelson, Des Moines, has returned after nine months in Serbia as a member of the American Red Cross Sanitary Commission.——Dr. Adelbert B. Maxwell has been elected secretary of the board of managers of the new Mary Greely Memorial Hospital, Ames.——Dr. George E. Decker, Davenport, has been elected a member of the board of directors of the Iowa National Bank.——Dr. Henry Matthey, Davenport, who has been serving abroad with the German Red Cross, will return home this month.——Dr. William A. Guild, Des Moines, has returned after nine months' service in the war zone.——Dr. Maurice C.

Hennessy has been elected president; Dr. John A. Sanders, vice president, and Dr. James M. Barstow, secretary of the surgical staff of Mercy Hospital, Council Bluffs.

LOUISIANA

Serum Fund Set Aside.—For the purpose of supplying serums of different kinds to the people of the state, the state board of health, at its December meeting, added $50,000 to the budget with which to establish a biologic laboratory.

Dowling Asks Enforcement of Laws.—Dr. Oscar Dowling, president of the state board of health, has addressed a letter to all the district judges in the state, asking them to charge their grand juries on sanitary matters and urge stricter enforcement of sanitary laws.

The Lake Charles Typhoid Condition.—The typhoid condition at Lake Charles, Calcasieu Parish, is greatly improved. From January 15 to 25, no new cases were reported, but in the following week there were six new cases. More than 2,000 houses are reported to have been visited by inspectors, who have mailed clean-up orders to numbers of business men and property owners.

Hay Fever Activities.—Late in December, the Louisiana State Hay Fever Prevention Association was organized in affiliation with the national association. Illustrated lectures on the subject of hay fever are being given before the New Orleans Academy of Science, Tulane University, Round Table Club, Loyola University, etc. Pamphlets containing illustrations and descriptions of the more common hay fever weeds are being prepared, and will be distributed free to the public schools of the city and state. On the recommendation of the association, the commission council of New Orleans has passed an antiweed ordinance, which imposes a penalty, without further notice, for having grass or weeds 2 feet high in private lots and 1 foot high on sidewalks and roads controlled by a franchise. It is hoped that the enforcement of this law will eventually eliminate hay fever from New Orleans.

MARYLAND

Would End Curb Market.—At the request of the city comptroller, Dr. John D. Blake, health commissioner of Baltimore, inspected the "curb market" on Lombard Street, and in his report to the comptroller states that in his opinion the curb market is a nuisance, as well as a menace and should not be tolerated.

Meetings.—The Physicians' Civic Club of Baltimore at its last meeting, February 11, was addressed by Dr. F. Park Lewis, Buffalo, who gave a history of the revolution in Buffalo which took that city out of the column of boss-controlled communities. As president of the Commission Government Association he speaks with knowledge and authority.——On invitation of the Sisters of Mercy and the medical and surgical staffs, the February meeting of the Baltimore County Medical Association was held at Mercy Hospital on February 16. A program arranged by the medical and surgical staffs of the hospital followed a luncheon at the hospital.

Consolidation of Schools.—The consolidation of the Maryland Industrial School for Girls with the Maryland State Training School for Girls, under the name of the Maryland Industrial Training School for Girls, is suggested in the report of the Maryland State Training School to the governor. The charter of the school was granted by the legislature of 1914 and $1,000 was appropriated for carrying on the work and investigation preliminary to the establishment of the institution. An expert investigator employed by the directors has shown the dire needs of an industrial training school in Maryland. The facilities in the Maryland Industrial School for Girls are said to be meager, its buildings are old, and its system of administration is out of date because its funds are entirely inadequate. To meet the problem it is suggested that the two schools be merged and a modern and adequate plant be erected and operated as a state institution.

MISSOURI

Bulletin on Malaria.—In THE JOURNAL for February 5, p. 436, is mentioned the issuing of a bulletin on the "Prevention of Malaria," by the University of Missouri, Department of Preventive Medicine. The number of this bulletin is incorrectly stated as No. 28; this should be No. 10.

NEBRASKA

State Officials Transferred.—Dr. Daniel G. Griffiths, pathologist to the Lincoln Hospital for the Insane, has been appointed superintendent of the State Institute for Feebleminded Youths, Beatrice, succeeding Dr. William S. Fast, who has been transferred as superintendent to the Ingleside State Hospital for the Insane, Hastings.

Scarlet Fever.—On account of the considerable epidemic of scarlet fever in Omaha, all social center meetings or other meetings in the public schools outside of regular school sessions were prohibited for a period of two weeks from February 2. Children were forbidden to attend the moving picture theaters. Some criticism has been made of the health department, which has discontinued giving out the number of cases reported.

NEW JERSEY

Personal.—Dr. Daniel L. McCormick has been reappointed chairman of the sanitation committee; Dr. C. Fred Webner, chairman of the hospital and training school committee; Dr. Theodor Teimer of the tuberculosis committee; and Dr. Elmer Wherry, chairman of the child hygiene committee of Newark.——Dr. Robert E. Sievers, Bordentown, has been appointed local surgeon for the Pennsylvania System.

New Buildings for Rockefeller Institute.—The Rockefeller Institute for Medical Research for New York and New Jersey has planned to erect buildings on newly acquired property in South Brunswick township, near Plainsboro. The following buildings have been contracted for: laboratories at a cost of $90,615; power house and tunnels, $102,556; operating building, $27,838. The work is to be finished by September 1.

NEW YORK

Bill for Abolition of Health Officer of the Port.—A bill has been introduced into the legislature providing for the transfer and for the abolition of the position of health officer of the Port of New York, and Governor Whitman has sent a special message advocating its passage.

Progress in Cold Storage Inspection.—Among the activities of the state department of health is that of issuing licenses to cold storage and refrigerating warehouses and of making regular inspection of the various warehouses. The number of warehouses inspected during the fiscal year ending Sept. 30, 1914, was 6,196, and during the last fiscal year, 9,174. During 1914, ninety-five actions were instituted and $2,025 in fines imposed; during the past fiscal year 256 actions were instituted and $4,460 in fines imposed.

Personal.—Prof. C. E. A. Winslow has resigned his position as director of public health education and editor of the *Health News*, in the state department of health, to accept the Anna M. R. Lauder professorship in public health at Yale University.——Dr. Matthias Nicoll, Jr., has been appointed director of the division of public health education in the state department of health, and in addition will have supervision of epidemiologic investigations in the southern and eastern parts of the state.——Dr. Edmund C. Body, Rochester, who has been in Serbia since August last, is now head of the military hospital in Nish.

Health Insurance.—A bill has been introduced into the state legislature providing for compulsory health insurance for workers of the state, which aims to supplement the present Workingmen's Compensation Law by giving medical attention and cash benefit to workers disabled by sickness as well as accident. The plan provides that 40 per cent. of the cost of health insurance is to be borne by the workmen themselves, 20 per cent. by the state, and 40 per cent. by the employers. The bill has been drafted by the American Association for Labor Legislation and will cover any case of sickness or accident not within the scope of present legislation. It applies to manual laborers and all others earning less than $100 per month.

New York City

Personal.—Dr. Parker Syms has been appointed visiting surgeon to the City Hospital of New York.——Dr. J. Ramsey Hunt has been appointed a manager of the Craig Colony for Epileptics for a term to expire the first Tuesday in February, 1923.——Dr. John A. Ferguson, Brooklyn, is reported to be seriously ill with pleuropneumonia.——Dr. H. Holbrook Curtis was presented with a silver loving cup by the National Institute of Social Sciences, of which he was one of the founders, at the annual dinner, January 14.

Semicentennial of Health Department.—The New York Health Department proposes to celebrate the semicentennial of its organization by a commemoration dinner on March 8, 1916. The guests will include the mayor, state health com-

missioner, Dr. Hermann M. Biggs, Surg.-Gen. William C. Gorgas, Surg.-Gen. Rupert Blue, Prof. William H. Welch, Dr. Peter Bryce, Dr. Stephen Smith and Prof. Charles F. Chandler. All those engaged either directly or indirectly in promoting public health, physicians, nurses and social service workers are invited. Those intending to participate are requested to notify Mr. George Roberts, 139 Centre Street, New York.

Physicians' Suit to Dissolve Partnership.—Dr. Silas P. Beebe writes that the news item last week, which by mistake appeared under Maryland News, regarding a suit by Dr. Beebe and Dr. Quimby against Dr. Beveridge, "asking that the partnership which they had formed with Dr. Beveridge for the manufacture and sale of 'autolysin' be dissolved and that a receiver be appointed to take charge of the concern" is incorrect. Dr. Beebe writes: "The New York newspapers did not contain such statements as are here quoted. Dr. Quimby and I have never formed a partnership with Dr. Beveridge 'for the manufacture and sale of Autolysin' and the New York newspapers did not make any such statement." Relating to the same subject the New York *Herald* of January 28, states: "The complaint asserts that May 6, 1915, the three physicians entered into an agreement as co-partners for the practice of medicine, particularly in the treatment of malignant growths."

New York City Leads in Birth Registration.—In a recent number of the *Public Health Reports* attention is called to the importance of completeness in birth registration and it is shown that in New York City the average registration is 98 per cent. It is interesting in this connection to note the methods by which this approximate completeness has been secured. The department of health has frequently called the attention of physicians to the importance of birth registration and has instituted several hundred prosecutions where violations of the registration requirements were found, but in addition it is the custom in the registrar's office to check all registered deaths of infants under one year with the birth records to ascertain whether the children's births have been previously recorded. During the year 1915, there were less than twenty instances in which the births of such infants had not been previously reported and these were mostly children who had lived for but a few minutes, hours, or days. Another method of ascertaining the completeness of the birth registrations is the practice of the health department nurses of taking a census of all the babies in the houses visited by them in their regular work and also of all babies coming to the milk stations and of checking these records against the birth registration records.

OHIO

Councilman in Cleveland.—Prof. William T. Councilman of Harvard University lectured before the Experimental Medicine Section of the Cleveland Academy of Medicine on February 11 on the subject of glioma, illustrated with lantern slides.

Personal.—Dr. Gaius E. Harmon has been appointed assistant registrar of the Bureau of Vital Statistics of the Cleveland City Division of Health.——Dr. Eugene F. McCampbell, executive secretary of the state board of health, Columbus, was elected dean of the College of Medicine of the Ohio State University, February 8, succeeding Dr. William J. Means, resigned.——Dr. Estell H. Rorick, Fayette, has been appointed a member of the state board of administration, succeeding Dr. Arthur F. Shepherd, Columbus, term expired. ——Dr. Jonathan B. Vail, Lima, with his wife and daughter, left on February 2 to spend the remainder of the winter in Honolulu.——Dr. Samuel A. Zwick of the staff of the Massillon State Hospital has resigned and will practice in Akron.

Changes in Health Staff.—A change in the political administration of Cleveland has resulted in the following changes in the City Hospital and Division of Public Health: Mr. Howell Wright, superintendent, and Dr. Thomas R. K. Gruber, assistant superintendent, of the City Hospital, have resigned and in their places have been appointed Dr. Charles H. MacFarland, Jr., as superintendent, and Dr. L. R. Brigman, former resident physician, as assistant superintendent. Dr. Gruber has accepted the post of assistant superintendent of Harper Hospital, Detroit.——Dr. Clyde E. Ford, for six years commissioner of health, has resigned, and Dr. Robert H. Bishop, Jr., former chief of the bureau of tuberculosis, has been appointed commissioner of health.——Dr. Moses J. Miller, diagnostician to the bureau of laboratories, health department, has been granted leave of absence because of illness.

PENNSYLVANIA

Personal.—Dr. Charles Roland has been been appointed health officer at Reading, succeeding Dr. Charles P. Henry, resigned.——Dr. Bert W. Caldwell has returned after seven months' field hospital work in Serbia, and has accepted the superintendency of the Allegheny Hospital.——Dr. Alfred W. Grover, Kingston, suffered severe cuts, January 30, when he drove his motor car through the cross gates of the Lackawanna at a grade crossing at Edwardsville to save himself from being run down by a locomotive.——Dr. William L. MacDougall, Scranton, who has been ill ever since last summer, is reported to be convalescent and ready to resume practice.

Philadelphia

Personal.—Dr. Henry H. Doan, as the result of a civil service examination, has been appointed chief of the division of child hygiene, bureau of health of Philadelphia.——Dr. George M. Coates has been appointed assistant editor in charge of the department of diseases of the nose and throat in *Progressive Medicine*.——Dr. Charles F. Mitchell has sailed for Paris to take part in the work of the University of Pennsylvania surgical unit in the American Ambulance. ——Dr. Alvin Strouse left for Vancouver, February 7, whence he will sail to the Orient to make a general survey and study of tropical diseases, snake bites and poisons in India for the Rockefeller Institute in New York. His associate in the work will be Dr. Victor C. Heiser.——Dr. Francis T. Stewart was recently appointed house surgeon to the Pennsylvania Hospital.——Dr. S. W. Newmayer has been named assistant supervisor of medical inspection in schools, of which Dr. Walter S. Cornell is the chief. Dr. Newmayer succeeds Dr. Walter W. Roach, who will be medical inspector in the bureau of health.

RHODE ISLAND

Intern Year Required.—A report from the state board of health states that after Jan. 1, 1917, no physician will be allowed to register in that state unless he has served one year in a hospital having at least fifty beds, and has attended at least ten maternity cases.

Bottled Spring Water.—The January *Bulletin of the State Board of Health* contains the report of the Division of Chemistry and Sanitary Engineering. Concerning the use of bottled spring waters in place of public or private water supplies, a custom which is growing, particularly in the larger cities, the chemists say that these water supplies, unlike public water supplies, which are protected from contamination after the water enters the pipes, are not only subject to any pollution which may exist at the source, but are also subject to many chances for dangerous contamination through uncleanly handling in bottling and delivery. For the protection of the public, therefore, it is said that the spring water business should be under the supervision of the state sanitary authorities. In Rhode Island it has been policy of the board to make inspections of the sources of such water supplies, to examine with care the methods of bottling and distribution, and to advise owners, bottlers and distributors with regard to the precautions necessary to secure the safety of such waters.

TENNESSEE

Hospital News.—The Memorial Hospital, Johnson City, now occupies the home of Colonel Lyle.——A meeting of the Business Men's Club of Covington was held, January 6, to discuss the ways and means of securing a hospital for Covington. It is estimated that the capital stock of the corporation would need to be about $15,000.

Baby Clinic in Chattanooga.—The first free baby clinic in Chattanooga, established as the result of the interest manifested by the public in the Better Babies Department of the Chattanooga District Fair, was opened, January 15, at the home of Drs. James H. Atlee and James A. Smith under the patronage of the Cosmos and other women's clubs. The clinic is open from 1 to 2 p. m. daily.

State Tuberculosis Commission.—A meeting of the state commission to locate and build a state tuberculosis hospital was called by Governor Rye at Nashville, February 1. The commission, which has been authorized to spend $50,000 for a state sanatorium for tuberculosis, consists of Drs. Jere L. Crook, Jackson, and Olin West, Nashville; W. P. Shipp, Clarksville, and J. R. Richardson, Murfreesboro.

Personal.—Dr. John A. Witherspoon has been elected president, and Dr. Charles W. Brown, vice president of the Central

Health Committee of Nashville.——Dr. Horace K. Alexander has been appointed quarantine officer and medical inspector of Nashville.——Dr. Blackburn G. Tucker, Nashville, has been elected health officer of Davidson County.——Dr. Rudolph B. Watson, formerly of the medical staff of the Panama Canal Zone, has been elected chief health officer for the town of North Chattanooga.

WISCONSIN

Eye and Ear Men Elect.—At the annual meeting of the Milwaukee Oto-Ophthalmic Society, January 19, the following officers were elected: president, Dr. Gustavus I. Hogue; vice president, Dr. John S. Barnes, and secretary-treasurer, Dr. Claude S. Beebe.

Epidemic Intestinal Trouble.—On January 29, it was reported that there had been more than 1,000 cases of intestinal trouble in Milwaukee, which some physicians thought was a sequel of grip, while others were inclined to attribute it to the water supply. Its cause was undetermined.

Sanatorium News.—Willow Brook, the new tuberculosis sanatorium for Kenosha, erected at a cost of $50,000, is completed and will be opened to receive patients this month.——The Marathon County Board has decided to locate the antituberculosis sanatorium on the eastern part of the county farm in the town of Stettin.

Personal.—Dr. Wallace P. Smith, physician to the State Prison, Waupun, who recently was attacked by a convict with a bottle, sustaining severe lacerations, is a patient in St. Agnes' Hospital, Milwaukee, suffering from septicemia.——Dr. Bartholomew Bantley, Milwaukee, has been appointed first assistant surgeon in the Battle Mountain Sanatorium, Hot Springs, S. D.

CANADA

New Sanatorium.—A private sanatorium for the treatment of tuberculosis cases has been established in Gravenhurst, Ont., by Dr. Charles D. Parfitt. It is to be known as The Calydor Sanatorium.

University News.—Dr. Joseph Guerard, professor of pathology, Laval University, Quebec, has been appointed professor of general therapeutics. Dr. Odilon Leclerc, Quebec, has been appointed professor of physiotherapy and physiology, and also joint professor in the medical clinic of the Hotel Dieu Hospital.

Christian Science Death.—A coroner's jury in British Columbia, empaneled to inquire into the cause of the death of a woman in Vancouver, recommends that the attention of the government of the province be called to the charge that there are certain persons in Vancouver practicing Christian Science for gain.

Montreal Doctors for Overseas Service.—Drs. Emerson C. Smith, Donald E. Cleveland of the Royal Victoria Hospital, Montreal, and Dr. Gerald T. Griffith of the Western Hospital have been granted temporary commissions in the Royal Army Medical Corps and will shortly go overseas to join one of the British hospital units in France.

Instruction for Medical Officers.—A school of instruction for medical officers was commenced in Toronto, February 14. Hart Hall at the University of Toronto is used for drill purposes, and rooms in the medical building are used for lectures. The course is so arranged that physicians in practice will be able to attend. Eighty fifth-year medical students are taking the course.

Object to Discipline.—On behalf of two or three medical practitioners who had been before the courts and who had been subsequently disciplined by the Ontario Medical Council, objection was taken before the Ontario Medical Commission last week to the disciplinary powers exercised by the council. As a result of the evidence taken there may be some amendment to the present act in the direction indicated.

Personal.—Lieut.-Col. Graham Chambers, who has been with the University of Toronto Base Hospital at Saloniki, has been transferred to the Ontario Government Hospital, Orpington, England.——Sir George M. Foster, Vancouver, B. C., Minister of Trade and Commerce for Canada, was the guest of honor at the thirty-fourth annual banquet of the Undergraduate Society of Medicine of McGill University, held the evening of February 5. He stated that the entire medical service of the Allies was on a high plane. The hospital and medical fraternity were doing splendid work, and the organization and resources were excellent. Dr. Frederick A. L. Lockhart, Montreal, in proposing "The Men on Active Service," said that Queen's had sent to the front 558 men; McGill, 1,213, and Toronto University, 1,847.——Major Perry G. Goldsmith, Toronto, who was with the first Canadian Overseas Contingent, is on his way home for a short furlough.——Maj. Charles A. Young, Ottawa, Ont., has been appointed assistant director of medical services, under Col. John W. Shillington, at Bramshott, England.——Maj. Samuel H. McCoy, Toronto, has been appointed medical registrar at the Record Office, London, England.——Col. George S. Rennie, Hamilton, Ont., has been appointed assistant director of medical services and officer commanding R. A. M. C., at Dover, England.——Dr. Ronald H. MacDonald, Saskatoon, Sask., has been invalided home after an attack of typhoid fever.——Capt. Oscar A. Cannon, Stratford, Ont., home on three months' leave of absence, has been transferred to London, Ont., as deputy assistant director medical services, No. 1 Division.——Dr. Dugald Stewart, M.P., Bridgewater, N. S., has been gazetted major the C. A. M. C. He will conduct examinations of recruits at various places in the Sixth Division.——Capt. William Hale, Jr., Utica, N. Y., has joined the C. A. M. C. Captain Hale graduated from Queen's University in 1910.——The Cross of the Legion of Honor has been awarded to Lieut. C. G. Wright, Toronto, who was medical officer to Scott's Antarctic Expedition.——Dr. Armand J. M. Arthur Rousseau, Quebec, has been appointed medical superintendent of the new tuberculosis hospital temporarily established there.——Dr. Michael Clark, member of Parliament for Red Deer, sustained severe burns of the hands at the burning of the Parliament Building at Ottawa, February 3.——Dr. J. L. Gibson, Calgary, Alta., has been made captain of a company raised in Calgary, and which expects to leave for overseas duty on April 1. Dr. Gibson formerly practiced in Houghton and Republic, Mich.

GENERAL

National Safety Council.—Under the auspices of twenty-eight bureaus of the federal government, an exhibit dealing with safety and other matters will be held in Washington, D. C., from February 1 to 26.——The fifth annual Safety Congress will be held at Detroit, October 16 to 21.

Preparations for Baby Week.—A bulletin of the children's bureau announces that 1,727 communities are considering preparations for baby week. Much interest is manifested throughout the country and in a number of the larger cities definite plans are already under way. The bureau emphasizes the opportunity the interest aroused in baby week affords for extending permanent infant welfare work.

Relief of Mississippi Flood Sufferers.—Tents, provisions and supplies pertaining to the medical and quartermaster's departments of the Army may be lent, issued or used for the temporary relief of destitute persons in the districts overflowed by the recent floods in the Mississippi River and its tributaries if congress enacts a joint resolution recently introduced in the house of representatives and favorably reported by the committee on military affairs.

New Officers for Canal Zone Society.—At the annual meeting of the Medical Association of the Isthmian Canal Zone held in Ancon, January 22, the following officers were elected: president, Dr. Lewis B. Bates; vice president, Dr. Herbert C. Clark; secretary-treasurer, Dr. Frazer F. Monroe, and executive committee, Dr. Roland C. Connor, Lt.-Col. Henry D. Snyder, M. C., U. S. Army, and Dr. Walter B. Pierce, all of Ancon.

A National Department of Health; the Owen Bill Again.—A bill to establish a department of health, and for other purposes, has been introduced into the United States senate by Senator Owen, similar in its terms to other bills introduced in recent years. It has been referred to the Committee on Public Health and National Quarantine. The introduction of this bill has, it is said, given the National League for Medical Freedom a pretext on which to found an appeal for funds.

Deaths Abroad.—Herbert Williams, M.D., London University, 1890; aged 53; for twenty-three years assistant medical officer of health and medical officer of health for the Board of London; died in London, January 16, from complications which supervened after an operation for appendicitis.——H. Klaatsch, professor of anthropology at the University of Breslau, aged 53, and author of important works on prehistoric man and on anatomy.——J. P. W. Wallichs of Altona, long editor of the *Aerztliche Vereinsblatt*, aged 86.——P. L. Friedrich, professor of surgery at the University of Königsberg, aged 51.

Jacobi Fellowship.—The Women's Medical Association of New York City announces the Mary Putnam Jacobi fellow-

ship of $800, available for postgraduate study and open to any woman physician for work in any of the medical sciences. The fellowship will be awarded not by competitive examination, but on proof of success in the chosen line of work. Applications for the year 1916-1917 must be in the hands of the committee of awards, whose chairman is Dr. Annie S. Daniel, 20 Gramercy Park, New York, by April 1; must be accompanied by testimonials as to health, letters as to ability, a detailed account of qualifications, a statement of the work proposed to be done while holding the fellowship and examples of the work of any of the applicants. Two reports will be expected from the holder of the fellowship, one to be presented about the middle of the work and a detailed report for publication on its completion.

Wine of Cardui Suits.—As most of our readers know, the Chattanooga Medicine Company, manufacturers of "Wine of Cardui," brought four suits for libel—two against the American Medical Association and the editor of THE JOURNAL; one against Dr. Oscar Dowling, president of the Louisiana State Board of Health; and one against *Harper's Weekly*. The suit against Dr. Dowling was called at Chattanooga, where the preparation is made, on February 3, and on February 14 illness of two of the jurors caused an indefinite postponement, which means a new trial. The suits against the American Medical Association and the editor are now scheduled for March 21 in Chicago.

Bequests and Donations.—The following bequests and donations have recently been announced:

Presbyterian Hospital, New York City, $5,000, by the will of Archibald M. Stewart

Northern Dispensary, New York City, $5,000, by the will of Lambert Suydam.

Methodist Episcopal Hospital and Norwegian Deaconess' Home and Hospital, Brooklyn, each $5,000, by the will of William Todd.

Biltmore, N. C., Hospital, $5,000 for the maternity ward; Mission Hospital, Asheville, N. C., $2,500 for the colored ward, by the will of Mrs. F. M. Wright.

Hospital for Negroes, Huntsville, Ala., $5,000 donation by Miss Mary Virginia McCormick.

Anna Jaques Hospital, Newburyport, Mass., $5,000, the income to be used to maintain a free bed for Amesbury patients by the will of Dr. John A. Douglass, Amesbury.

Stony Wold Sanatorium, Lake Kushaqua, N. Y., one fifth interest in the residuary estate of Anna R. Morrison, amounting to about $150,000.

Animal Experimentation Bill Introduced in the House.—Investigation by the secretary of agriculture into experimentation on living animals is proposed in a bill introduced into congress, Feb. 8, 1916, by Representative Kahn of California. The bill was referred to the committee on agriculture. The bill provides for an investigation to cover the extent and conditions of experimentation on living animals in laboratories for research and in hospitals and other establishments, and in the commercial production of serums and vaccines for sale, for the purpose of ascertaining whether such experiments and practices are attended with unnecessary and preventable suffering arising from useless repetitions of experiments, or of proper skill in the experimenters, nonuse of anesthetics and the absence of proper care of the animals on which such experiments or operations are conducted. It is proposed to appropriate $20,000 to cover the expenses of the investigation, and the results are to be reported to congress.

Child Labor Conference.—The twelfth annual conference of the National Child Labor Committee, held at Asheville, N. C., was an important and enthusiastic meeting. According to reports of the meeting, the South, contrary to the impression that is said to be abroad, is not in favor of the employment of small children in the industries, which in that section means chiefly the cotton mill industry. Attention is called to the fact that the vote in the House of Representatives of the United States Congress showed that eight Southern states were solidly for the Keating-Owen child labor bill, four had a majority for the bill, and only two, the Carolinas, were solidly against it. Speakers from the South at the conference repeatedly showed that they did not believe in the employment of child labor, and that opposition to child labor legislation came from special interests. The National Child Labor Committee, after the conference, gives it as the opinion of the committee that sentiment in the South is strong for progressive legislation of this character, and that the employment of small children is unnecessary for the success of Southern industries. Delegates were present from twenty states, and 1,500 people attended the meetings.

Rural Sanitation and the United States Public Health Service.—For investigating and encouraging the adoption of approved methods of rural sanitation, and especially for devising and demonstrating effective measures against pellagra and typhoid fever, instructing farmers and others in the prevention and suppression of these diseases, conducting the necessary investigations and surveys and otherwise taking steps in cooperation with state and local authorities to prevent and eradicate these diseases in rural districts in the United States, for use by the United States Public Health Service, it is proposed to appropriate the sum of $100,000, according to a bill introduced into the house of representatives, February 5. An appropriation of $75,000 for special studies of, and demonstration work in, rural sanitation was requested by the secretary of the treasury in a letter addressed to the speaker of the house of representatives, February 8, for the use of the United States Public Health Service during the fiscal year ending June 30, 1917. An item of $50,000 for the same purpose, for use during the present fiscal year, is included in the urgent efficiency bill now being considered in conference. The present request is based on a report of the surgeon-general of the Public Health Service that the results of field investigations conducted by the Public Health Service since July 1, 1914, indicate the urgent need of the extension of these activities in country districts in order that sickness may be prevented, lives saved and local health organization advanced. More than 52 per cent. of the total population of the country is rural and the advancement of sanitation among this class has not kept pace with the advance in urban communities.

Death of Pawlow.—Prof. Ivan P. Pawlow was born Sept. 14, 1849, and was graduated in 1879 from the Military-Medical Academy at Petrograd. After a few years in Botkin's service and laboratory for internal medicine, he was appointed privat-docent for physiology at the Military-Medical Academy in 1884. The authorities then sent him abroad for two years of study in experimental medicine. In Germany he worked under Heidenhain and Ludwig. In 1890 he was called to Tomsk as professor of pharmacology, but the same post was given him at the Military-Medical Academy, and the next year the newly completed Institute for Experimental Medicine was placed in his charge. In 1895 he was transferred to the chair of physiology, and in 1897 became regular professor, keeping throughout his charge of the Institute for Experimental Medicine, the scene of his pioneer work. His first research was devoted to the physiology of the circulation, but his work with "sham feeding" dates from before 1890. His principal work on the physiology of the digestion was published in 1897. The occasion of the twenty-fifth anniversary of his entering on his teaching career was celebrated in 1904 by the collection of an endowment fund for awarding a prize for research on physiology. He was awarded the Nobel prize in medicine in 1904, and his recapitulatory address on receiving the prize was published in full in the *Nordisches medizinisches Archiv*, 1905, xxxvii. His name is written variously as Pavlov, Pavloff and Pawlow, the Russian letter *B*, of which there are two in his name, being pronounced like "v" or "ff."

Public Health Conference Held in Salt Lake City.—Representatives of the United States Public Health Service and of the health authorities of certain western states met in Salt Lake City, February 2, to consider problems of health administration arising out of the unusual prevalence of rabies in parts of the West, and problems incident to Rocky Mountain spotted fever, tuberculosis and railroad sanitation.

Dr. J. W. Kerr, assistant surgeon-general, United States Public Health Service, presided. Official delegates were present from California, Idaho, Kansas, Montana, Nevada, Utah, Washington, Wyoming and the District of Columbia. Representatives were in attendance from the Bureau of Animal Industry, the Biologic Survey and the Forest Service of the United States Department of Agriculture, and from organizations of wool growers, sheep and cattle raisers and various railroad companies.

The unusual prevalence of rabies in California, Idaho, Kansas and Nevada, with its possible presence in other parts of the West, was the chief cause for calling the conference. Rabies among coyotes was so prevalent, it was stated, in some localities, that it was regarded as unsafe to allow children to go to and from school unless guarded against attacks by such animals, and the danger to sheep and cattle was greatly augmented by reason of the presence of the disease. There was an apparent difference of opinion between the representatives of the wool growers and the representatives of the United States Biologic Survey as to the best method of effecting the destruction of coyotes, the wool growers contending for the bounty system and the Biologic Survey favoring the employment of salaried hunters and trappers for such work. Dr. W. J. Butler, the state veter-

inarian of Montana, claimed that good results had been obtained in Montana by inoculating coyotes with ordinary dog mange and then turning them loose to spread the disease among their fellows. The conference adopted resolutions strongly urging the adoption by the various states of legislation to provide state boards of health and other state agencies with authority to establish quarantine areas against rabies and with adequate funds for a campaign against the disease. The authorities of the several states were advised to request cooperation from the appropriate federal departments in the establishment of a systematic plan for the eradication of rabies, including the calling of conferences from time to time to promote the efficiency of the work. The following provisional plan was recommended:

1. That the destruction of wild animals devolves on the proper state authorities and commercial interests within the states, acting in cooperation with the United States Department of Agriculture.

2. That the prevention of rabies among humans, including the control of the disease among domestic animals and measures for prophylactic treatment, devolve on the state health agencies, cooperating with the United States Public Health Service.

3. That the United States Public Health Service be requested to detail an officer or officers to cooperate with the state health agencies in stimulating and coordinating local activities with respect to the limitation and suppression of rabies.

A resolution was adopted recommending that the proper federal and state agencies determine by experimentation the value of infection of coyotes by dog mange as a means for their destruction.

ROCKY MOUNTAIN SPOTTED FEVER

The finding in the blood of human beings, guinea-pigs and white rats, suffering from Rocky Mountain spotted fever, of certain bodies which he believes have a causative relation to the disease, was announced by Dr. L. D. Fricks, surgeon, United States Public Health Service. In spotted fever blood stained by Giemsa's method these appear as small extracorpuscular granules, staining bright red and highly refractile; also as similarly sized bodies, surrounded by a pale halo, within or in close proximity to the erythrocytes. These granules were most numerous in and around the endothelial cells from the smaller blood vessels.

Dr. Fricks reported that the ticks that convey Rocky Mountain spotted fever pass the earlier cycles of their lives on chipmunks, ground squirrels and other small animals, migrating later to horses and cows. The fact that such rodents may serve as hosts for these ticks interferes with the efficiency of dipping of horses and cows as a means for the eradication of the ticks. The availability of dipping is further limited by the relatively small area that any one dipping tank can serve, and the cost of constructing and operating large numbers of such tanks. The use of sheep as an agency for the freeing of tick-infested areas from such infestation was pointed out by Dr. Fricks. Ticks find their way readily into the wool of the sheep as they graze, and in the wool the ticks die or are at least carried forward as the sheep move. The grazing of the sheep from inhabited areas onward to uninhabited mountainous regions would tend toward the destruction of the ticks or the carrying of them to places where they could do a minimum of harm to human beings.

Dr. Kerr announced that the United States Public Health Service would soon issue a leaflet giving in a succinct way a description of Rocky Mountain spotted fever, the leaflet being intended for the widest possible distribution among physicians and others interested in the disease.

Resolutions were adopted expressing appreciation of the work done by Dr. Fricks and recommending that the state health officers take such steps as might be possible within their respective jurisdictions for the collection of complete morbidity reports with respect to Rocky Mountain spotted fever, and that such health officers conduct, in cooperation with the United States Public Health Service, a campaign of instruction by circular and otherwise within the infected areas, and obtain the cooperation of the United States Department of Agriculture in an effort to reduce tick infestation, through the destruction of small animals by which ticks are carried.

TUBERCULOSIS

The conference adopted a resolution recommending the devising and use of better methods than now exist for the care of indigent consumptives who have migrated from one state to another, with provision for the equitable distribution of the cost of maintenance and treatment of such patients.

RAILROAD SANITATION

A resolution was adopted asking the surgeon-general of the United States Public Health Service to appoint a committee to formulate a model sanitary code, so as to bring about uniformity in the sanitary regulation of both interstate and intrastate transportation throughout the United States, the committee to submit a report at the annual meeting of the conference in May next.

"ALKALI DISEASE"

The occurrence in certain parts of Utah of a disease that seems to be specific in its character but which so far as he knew had not previously been described, was reported by Dr. T. B. Beatty, secretary Utah State Board of Health. The disease appears to have occurred for some time past in Box Elder and Millard counties, from seventy-five to 100 cases occurring each year, and has been known among the inhabitants of those localities as the "alkali disease." It occurs only from the middle of June to the latter part of July, and is always preceded by the bite of a fly, probably the deer fly. Many such bites, however, are not followed by infection. Those familiar with the disease report a coincident high mortality among rabbits, and conceive some possible relationship between such mortality and the occurrence of the disease in man.

The "alkali disease" occurs most commonly in men who have been working in the fields. Bites are usually on the exposed surfaces of the body, most frequently in the vicinity of the ear and about the neck. Within twenty-four hours after having been bitten, the patient's temperature rises, possibly reaching 104. Swelling and marked induration of the skin occur about the bite and in the neighboring lymphatic glands. The skin breaks down in about three days, leaving an ulcer, cleanly punched out, involving the skin and subcutaneous tissue. Full convalescence requires from five to seven weeks. An extensive scar always remains. Deaths are rare. No immunity follows the disease.

Dr. Beatty urged that the United States Public Health Service investigate this disease and suggested that the health officers of the other states represented might possibly find it within their jurisdictions.

FOREIGN

Gasoline Rebate.—In order not to inflict too heavy an outlay on physicians using motor cars in their professional work, the British government is now granting a rebate of 6 cents per gallon to all doctors making application for it before their local collector of taxes.

Famine and Pestilence in Mexico.—Recently it has been reported from El Paso that starvation and disease are prevalent in Chihuahua, Coahuila and Durango; that there are no crops and the supply of corn is rapidly diminishing. Furthermore, pneumonia and typhoid fever are exceedingly prevalent and the death rate from tuberculosis is rapidly increasing. He does not report typhus fever as prevalent in these provinces.

WAR NOTES

American Hospital Unit for Germany Arrives.—The first hospital unit sent out by the American Physicians' Expedition Committee has arrived in Berlin. The unit was headed by Dr. Fred Kammerer of New York and included Drs. Frank D. Gorham, St. Louis; Paul K. Sauer, New York, and Frank L. Paschal, New York, with six nurses. This unit will take charge of the military reserve lazaret at Deutsch Eylau, East Prussia.

French Military Hospitals.—Reports from Paris state that up to Dec. 30, 1915, the military and auxiliary hospitals in France contained a total of 500,000 beds, the majority of which are occupied by wounded soldiers. The cost of maintenance is a quarter of a million dollars daily. The three Red Cross societies operating in France have spent $16,000,000 for the 115,000 beds which they maintain in 1,200 hospitals, and of this amount $1,250,000 has been contributed from American sources.

Moxon Medal Awarded to Dejerine.—The Royal College of Physicians at London has conferred the Moxon gold medal on Professor Dejerine of Paris for his works on the diseases of the nervous system. This medal is awarded every three years, and it is the first time it has been given to a foreigner. Dejerine is physician in chief of the Salpêtrière and director of the clinic for nervous diseases, worthily sustaining the traditions of Charcot's famous clinic. Madame Dejerine, a member of the Klumpke family of scientists, is also a specialist in nervous disorders. The Salpêtrière, the scene of their labors, is a hospital and asylum for aged, infirm and indigent women for whom it has 3,701 beds, with an additional department with 776 beds for insane women.

BERLIN LETTER

BERLIN, Jan. 18, 1916.

Personal

Death is reaping a rich harvest not only in the field but at home nowadays. To the list of prominent scientists who have died since the onset of the war must be added another whose works are known to American physicians. December 29, at Hamburg, the former professor of hygiene at Halle, Professor Karl Fraenken (formerly Fraenkel) succumbed to a chronic malady, aged 54. I referred to him a few months ago in my Berlin Letter, mentioning then the change in his name and the illness which ten years ago began to interfere with his active duties. The malady which compelled him to retire was an extensive arteriosclerosis. He became assistant to Robert Koch in 1885 and under Koch's direction the next year published a manual on methods of bacteriologic examination. This was the first comprehensive presentation of Koch's theories, and as the manual possessed the advantages of Fraenken's clarity of style and skill in presenting facts, it soon was widely accepted and was translated into several foreign languages. Of Fraenken's own contributions to science may be mentioned his research on the micro-organisms in the different strata of soil, on the germ-content of ice, on the action of carbon dioxid on the vitality of bacteria, cultivation of anaerobic bacteria, disinfection of wells and the germ content of ground water. He also demonstrated that the filtration of potable waters is not the protection formerly assumed to be the case, and that spring water should be given the preference.

In collaboration with Brieger, Fraenken investigated the field of bacterial toxins, and he succeeded in discovering a new method of immunizing against diphtheria. He was a pioneer also in certain fields of experimental research, but among his most important contributions to science is his and R. Pfeiffer's "Microphotographic Atlas of Bacteriology." In 1890 he was made professor at Königsberg; the next year he became Rubner's successor at Marburg and in 1895 was called to succeed Renk at Halle where he remained until his retirement last spring. He was eminent as a teacher and writer, and popular as a banquet speaker, and was certainly one of the most eminent of Koch's pupils.

Professor von Noorden and Professor Quincke have been living in Frankfort on the Main since their retirement from their University chairs. The University of Frankfort has recently appointed each to a fee professorship (ordentliche Honorarprofessur).

Cancer Mortality

In the year 1913 there were recorded in Prussia 30,882 deaths from cancer. In 1912 there were 30,045 deaths from this cause reported; in 1911, 29,473; in 1910, 28,093, and in 1903, 21,258. The increase over the cancer mortality of the preceding year was thus 2.8 per cent. In ten years the number of persons dying from cancer has thus increased by 9,624, or 45.2 per cent. In 1913 there were 13,835 men (13,587 in 1912) and 17,047 women (16,458 in 1912). The increase is thus greater among women than in men. In the ten years in question the cancer mortality among women increased by 47 per cent. and in men by 43 per cent. Calculated by 10,000 living, there were 7.41 deaths from cancer in 1913 to 7.32 in 1912; 7.24 in 1911, and 5.98 in 1903. The figures respectively for men and for women were: men, 6.72 (in 1903, 5.52); women, 8.10 (in 1903, 6.42).

The Army Sanitary Service

Among the data recently presented at a representative meeting of military medical men at Berlin, under the auspices of the war department, it was announced that the military medical service now has at its disposal 1,460 automobiles with 700 trailers, 425 heatable cars for transporting the sick and wounded, 137 ambulance trains, 87 hospital trains, and 17 boat trains for transportation by water. When burial of the dead is not possible, as often occurs with present modes of warfare, the corpses have cresol poured over them to render them harmless. In recent reexaminations of the wounded who had been counted out as permanently unfit for service, 25 per cent. were found fit for service without the requirements having been lowered.

In the sanitation stations on the east front, 600,000 men had been put through the disinfecting process by November. In the prisoners' camps there have been only six cases of smallpox, but there have been over 41,000 cases of typhus, as this pestilential disease is being constantly imported anew with new Russian prisoners. The mortality was only 8 per cent., and by November there were no further cases.

LONDON LETTER

LONDON, Jan. 29, 1916.

The War

THE TOTAL BRITISH CASUALTIES

In response to a question in parliament, the prime minister has stated that the total British casualties up to January 9 are 549,467, which are made up of: killed, 128,138; wounded, 353,283, and missing, 68,046. In the various fields of operations the casualties are distributed thus: France, 400,510; Dardanelles, 117,549, and other theaters, 31,408.

ECONOMY OF INFANT LIFE

At the annual meeting of the York Infant Welfare Association, Sir James Crichton-Browne said that one of the most urgent of our war economies was an economy of babies. It was essential to our national efficiency that our supply of them should be kept up, and that the extravagant waste of them should be stopped. The war had made us realize that it is the mass of people that tells. It was the rapid growth of her population—which had increased during ten years by 8½ against our 3½ millions—that had given Germany her aggressive power, and if we would hold our own when the war was over and compensate for the war wastage we must take means to multiply our people. We must arrest the decline in the birth rate and grapple with infant mortality. Grants were needed for special research work, and expectant mothers should be guarded against ignorance and carelessness by sensible education. The excess of females over males in this country, estimated at 1,205,311 in 1913, must be now very much more. We could not contemplate with equanimity the fact that in Great Britain, France and Belgium masculinity had shown a tendency to decline during the last half of the last century. There had been an increase in English masculinity during the last year, it is alleged; but temporary fluctuations in the rate were common, and no safe conclusions could be founded on the figures so far quoted. Soldiers returning from the war married in large numbers, so some rally in the birth rate might be anticipated; but such evidence as we possessed suggested a probable further decline in masculinity.

BRITISH HOSPITALS FOR THE FRENCH WOUNDED

In its earlier stages, the war imposed a much greater strain on France than on England, who supplied only a small part of the allied forces. Moreover, a large part of France was overrun by the enemy, and a considerable portion still remains in its possession. The opportunity and the need for helping in the care of the French wounded were therefore great, and the response was worthy of the occasion. There are now no fewer than twenty-seven hospitals in France established, administered and supported by British voluntary effort and staffed by British physicians and nurses. The following remarkable list has recently been given by the *Gaulois:* the Urgency Cases hospital at Bar-le-Duc and the Arc-en-Barrois Hospitals; the Hôpital Herbert Ward at Rolleboise; the Hôpital Lady Wemyss at Canly; the British Ambulance Committee at Gérardmer; the Hôpital Franco-Anglais (Lady Murray) at Tréport; the Hôpital FitzGerald at Passy; the Trianon Hospital at Versailles; the Hôpital de l'Alliance at Yvetot; the Hôpital Anglo-Ethiopien at Frévent; the Hôpital du Chateau de Bearn established at St. Cloud by Lady Hartwell; the Allhusen Hospital at Céret; the Hôpital du Chateau d'Anuel near Compiègne; the Joint Anglo-French Hospital and Hôpital Civil de la Clayette; the Florence Fiennes Hospital at Malo-les-Bains; the Scottish Women's Hospital at Chanteloup; the Johnstone-Reckitt Hospital at Ris-Orangis; the Hôpital du Chateau de Rozières near Nanteuil-le Haudouin; the Hôpital du Chateau de Blancat at Pau; the First Aid Nursing Yeomanry Hospital at Calais; the Lady Sykes Hospital at Canly; the Hôpital d'Hardelot near Boulogne, founded by the Duchess of Rutland; the Surgical Ambulance at Rosebruge (Mrs. Borden-Turner); the Hôpital Canadien No. 4 at St. Cloud; the Hôpital Anglais No. 307 at Neuilly-sur-Seine; the Hôpital Irlandais at Cezaincourt, and the Hôpital Anglais No. 6 at Nevers.

THE HEALTH OF WORKERS IN EXPLOSIVES

In reply to a question as to the health of the workmen employed in the use of picric and nitric acids, Mr. Lloyd George stated in parliament that as regards picric acid no ill effects are caused except a discoloration of the skin; but that workmen engaged on trinitrotoluene are sometimes injuriously affected, the degree of susceptibility varying

greatly, many workers being immune. Various expedients of a sanitary and medical character are in operation to counteract the difficulty, and a weekly medical examination of all workers is carried out with a view to the transfer to other work of persons especially susceptible.

PARIS LETTER

PARIS, Jan. 20, 1916.

The War

DECREASE IN THE MORTALITY RATE IN MILITARY HOSPITALS

Dr. Jacques Bertillon, who was at the head of the municipal statistics of Paris and who is now in charge of the medico-surgical statistics of the army, reports that the mortality in our military hospitals was 4.5 per cent. in 1914 and the beginning of 1915. This is much lower than that of previous wars, which was about 30 per cent. At present, thanks to improvements introduced into our medical service, the mortality has been greatly diminished; it is not over 2 per cent. Out of one hundred patients treated in our military hospitals ninety-eight, on the average, are discharged recovered.

SCARLET FEVER IN THE ARMY

This subject has just been under discussion at the Réunion médicale de la IV-e armée. Drs. Félix Ramond and Gustave Chambas, during nine months, have cared for 131 cases of scarlet fever, with complete recovery. They observed two frequent complications. One, which is familiar, is rheumatism; the other, almost unknown, is scarlatinal jaundice. Rheumatism was observed in 29 per cent. of the cases and was always very light. It ordinarily occurs early and is localized in one or two joints, especially in the knee or shoulder. It is a pseudo-rheumatism, as is shown by its clinical features and the almost constant subarticular adenopathy. It is interesting to observe the very favorable action of sodium salicylate. Scarlatinal jaundice is more rare (8 per cent. of the cases), but in half of these cases it coexists with rheumatism. It likewise begins early with a rise in temperature. The coloration of the skin is not deep, being often a light sulphur color. The urine ordinarily has traces of pigment. The feces are not always discolored. The spleen is very slightly hypertrophied, but the liver is normal in size. There is no itching, no bradycardia and no asthenia. The condition ordinarily does not last longer than ten or twelve days. The jaundice is benign and does not affect the prognosis.

The favorable action of sodium salicylate on scarlatinal rheumatism, and certain analogies between scarlet fever and acute articular rheumatism, led Dr. Ramond to treat scarlet fever by sodium salicylate. All cases appeared to him suitable for this treatment, and there are no contraindications even when serious renal or nervous conditions are present. The doses employed were the same as those used in articular rheumatism; that is, from 3 gm. to 6 gm. a day. The patient generally feels much better, the temperature and pulse fall rapidly and diuresis occurs at the end of two or three days. The effect on complications is just as evident. The scarlatinal rheumatism disappears in a few days. Endocarditis and pericarditis are much improved. In one case the massive albuminuria present at the outset ceased after four days of treatment. In the other case, an acute convulsive delirium was overcome in forty-eight hours by strong doses of salicylate. It seems that salicylate is well tolerated by scarlet fever patients, and that it has a manifest action on the infection. Further observations are necessary, however, for scarlet fever is a very capricious disease in its epidemic course.

Dr. Merklen confirmed the frequency of the form of rheumatism described by Ramond as occurring in scarlet fever. In many cases of scarlet fever that Merklen has seen this summer, this rheumatism has been observed frequently even associated with disturbances of cardiac rhythm or muffling of the sounds of the heart. Recovery always occurred without difficulty. Whether or not albuminuria contraindicates the use of sodium salicylate depends on the nature of the albuminuria. Albuminuria from renal sclerosis is not suitable for salicylate treatment, but this does not apply to albuminuria due to a slight acute nephritis.

Death of Professor Hamelin

Dr. Elphége Hamelin, formerly professor of therapeutics at the Faculté de médecine de Montpellier, has just died, aged 75.

Association News

THE DETROIT SESSION

Announcement of Hotel Headquarters

In announcing the hotels selected as headquarters for the annual Scientific Assembly to be held in Detroit, June 12-16, the Committee on Arrangements again requests that hotel reservations be made through the Committee on Arrangements, rather than with the hotels directly. When the subcommittee on hotels receives a request for a reservation, it will take up the matter with the management of one of the hotels and see to it that the hotel advises the applicant of the reservation made. In writing to the committee, please name a first and second choice of hotels and state the number of rooms desired for the accommodation of your party; also, name the rate you are willing to pay. Those who desire rooms with bath should state whether a tub or a shower is preferred. The local Committee on Arrangements should be notified promptly in case the reservation is not to be used; this notice will permit the space to be assigned to others.

A preliminary list of hotels appeared in THE JOURNAL, Feb. 5, 1916, page 445. The list of hotel headquarters follows:

HOTEL HEADQUARTERS

General Headquarters — Statler

Section	Hotel
1. Practice of Medicine	Ponchartrain, Cadillac Sq. and Woodward
2. Surgery, General and Abdominal	Tuller, Grand Circus Pk., Park and Adams
3. Obstetrics, Gynecology and Abdominal Surgery	Statler, Grand Circus Pk., Washington and Bagley
4. Ophthalmology	Statler, Grand Circus Pk., Washington and Bagley
5. Laryngology, Otology and Rhinology	Statler, Grand Circus Pk., Washington and Bagley
6. Diseases of Children	Addison, N. W. Woodward and Charlevoix
7. Pharmacology and Therapeutics	Tuller, Grand Circus Pk., Park and Adams
8. Pathology and Physiology	Tuller, Grand Circus Pk., Park and Adams
9. Stomatology	Ste. Claire, N. E. Monroe and Randolph
10. Nervous and Mental Diseases	Plaza, S. W. Madison and John R.
11. Dermatology	Ponchartrain, Cadillac Sq. and Woodward
12. Preventive Medicine and Public Health	Cadillac, S. E. Michigan and Washington
13. Genito-Urinary Diseases	Ponchartrain, Cadillac Sq. and Woodward
14. Hospitals	Charlevoix, S. W. Park and Elizabeth
15. Orthopedic Surgery	Eldorado, Winder, near Woodward

Marriages

HARRY P. BOWEN, M.D., Johnson Creek, Mich., to Miss Florence F. Imig of Waukesha, Wis., at Milwaukee, January 4.

HENRY GURDON FISH, M.D., Fargo, N. D., to Miss Gladys Mercedes Zirkle of Carrington, N. D., at Fargo, January 26.

JAMES TICKELL DOWNS, JR., M.D., Dallas, Texas, to Miss Elizabeth Florence Erich, at Allentown, Pa., December 14.

OTTO CARL PICKHARDT, M.D., New York City, to Miss Helen Kahle of Bridgehampton, L. I., N. Y., February 6.

EUGENE RADFORD BOYER, M.D., Hersey, Wis., to Miss Florence Marie Carlson of Woodville, Wis., recently.

ERWIN PAUL ZEISLER, M.D., Chicago, to Miss Ruth Spiro of South Bend, Ind., at Chicago, February 14.

WILLIAM CULBERT LYON, M.D., U. S. Navy, to Miss Battie Moody, both of Houston, Texas, January 23.

JAMES ROY ST. CLAIR, M.D., Alexandria, Pa., to Miss Besse Grogg of East Berlin, Pa., December 25.

DAVID LAZARUS, M.D., to Miss Harriette Gross, both of New York City, February 1.

EUGENE LEE MYERS, M.D., to Miss Faletia Ray, both of St. Louis, February 2.

Deaths

Richard Henry Whitehead, M.D. University of Virginia, Charlottesville, 1887; aged 50; a Fellow of the American Medical Association; and a member of the Association of American Anatomists; demonstrator of anatomy in his alma mater from 1887 to 1889; professor of anatomy and dean of the medical department of the University of North Carolina from 1891 to 1905 and thereafter professor of anatomy and dean of the Medical Department of the University of Virginia, Charlottesville; one of the best known anatomists and teachers of anatomy of the United States; author of a work on "Anatomy of the Brain," and a frequent contributor to the literature on anatomy and pathology; an enthusiastic advocate of the higher medical education and a regular and interested attendant at the conference on medical education; died at his home in University, Va., February 6, from pneumonia.

Thomas Hubbard Russell, M.D. Yale University, New Haven, Conn., 1875; aged 63; a member of the Connecticut State Medical Society; professor of materia medica and therapeutics in his alma mater from 1883 to 1891, and of clinical surgery from 1891 until the time of his death; for thirty years attending surgeon to the New Haven Hospital and thereafter consulting surgeon to the institution; one of the most prominent surgeons of New England; died at his home in New Haven, February 4, from pneumonia following an attack of influenza.

James Witherspoon, M.D. Western Pennsylvania Medical College, Pittsburgh, 1895; aged 45; a Fellow of the American Medical Association and American College of Surgeons; professor of descriptive anatomy in his alma mater; chief surgeon of St. John's General Hospital, North Side, Pittsburgh, and a member of the staff of the Allegheny General Hospital; one of the leading surgeons of Pittsburgh; died at the home of his father, North Side, Pittsburgh, February 1.

Ogilvie DeVilla Ball, M.D. College of Physicians and Surgeons in the City of New York, 1867; aged 75; a Fellow of the American Medical Association; treasurer of the Medical Society of the State of New York for several years and president of the Albany County Medical Society in 1894; a veteran of the Civil War; coroner of Albany County, N. Y., in 1874; for four years demonstrator of anatomy in Albany Medical College; died at his home in Albany, December 15.

Carroll Rollin Bancroft, M.D. College of Physicians and Surgeons, Baltimore, 1908; aged 36; a Fellow of the American Medical Association; for two years city physician and health officer of Anaconda, Mont.; for four years a teacher in the Philippine Islands and after his graduation for two years assistant superintendent of the Montana State Hospital, Warm Springs; died in the Good Samaritan Hospital, Los Angeles, February 3.

Henry Parrish, M.D. Medico-Chirurgical College of Philadelphia, 1897; aged 67; a Fellow of the American Medical Association; and a member of the Philadelphia Laryngological Society; also a clergyman and Doctor of Divinity; laryngologist to the Pennsylvania State Dispensary for Tuberculosis; died at the home of his son in Philadelphia, February 2, from heart disease.

Clarence E. James, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880; aged 64; a Fellow of the American Medical Association and a charter member of the Marion County (Iowa) Medical Society; while making a professional call near his home in Durham, Iowa, January 30, fell on the ice, striking his head, and died a few days later from cerebral hemorrhage.

James LaRue Wadsworth, M.D. Northwestern University Medical School, Chicago, 1863; aged 77; a Fellow of the American Medical Association; formerly a member of the Illinois State Board of Charities; surgeon to the Vandalia Consolidated Coal Company, Collinsville, and formerly mayor of that city; died in his office in Collinsville, January 26.

John P. Ralston, M.D. American Medical College, St. Louis, 1880; aged 64; a member of the Missouri State Medical Association; physician to the Children's Home and a member of the staff of the Burge Deaconess and St. Johns' hospitals, Springfield, Mo.; died at his home in that city, January 30, from cerebral hemorrhage.

John Abbott Douglass, M.D. Medical School of Maine, Brunswick, 1854; College of Physicians and Surgeons in the City of New York, 1861; aged 86; a member of the Massachusetts Medical Society; surgeon of the Eleventh Massachusetts Volunteer Infantry during the Civil War; died at his home in Amesbury, Mass., February 4.

Rufus Elmer Darrah, M.D. Harvard Medical School, Boston, 1890; aged 54; a Fellow of the American Medical Association; a member of the Rhode Island State Board of Health and president of the Newport (R. I.) Board of Health and School Committee; died at his home in Newport, February 8, from pneumonia.

Joseph Ross Wilson, M.D. Northwestern University Medical School, Chicago, 1892; aged 48; a member of the Indiana State Medical Association, and a well-known practitioner of Hebron, Ind.; while driving over a grade crossing at Henderson, Ind., February 12, was struck by a train and instantly killed.

Henry Arthur Albers, M.D. Rush Medical College, 1881; aged 59; one of the founders of the Wisconsin College of Physicians and Surgeons, and professor of medicine and clinical medicine therein; for thirty-three years health officer of Thiensville, Wis.; died at his home in Milwaukee, January 31.

Charles L. Wachter, M.D. College of Physicians and Surgeons, Baltimore, 1884; aged 60; a member of the medical and chirurgical faculty of Maryland; a member of the Frederick County School Board and director of the Thurmont Bank; died at his home in Sabillasville, Md., February 3.

Joseph Brooks Follmer, M.D. College of Physicians and Surgeons, Baltimore, 1884; aged 56; a member of the Medical Society of the State of Pennsylvania; school director and member of the Board of Education of Berwick, Pa., for many years; died at his home in Berwick, January 31.

Evan Gabriel Williams, M.D. University of Buffalo, 1864; aged 75; a practitioner, druggist and clergyman of Remsen, N. Y.; coroner of Oneida County for six years and four years a member of the board of supervisors; died at his home in Remsen, February 1, from asthma.

Ira Harris, M.D. Albany (N. Y.) Medical College, 1881; aged 63; for thirty-two years a missionary of the Presbyterian Board of Foreign Missions in Tripoli, Syria, and United States consul at Tripoli for twenty years; died in that city, November 25, from typhus fever.

Silas Arnold Houghton, M.D. Harvard Medical School, 1891; aged 51; a Fellow of the American Medical Association and a member of the New England Pediatric Society and the Boston Obstetrical Society; died at his home in Brookline, Mass., February 6, from pneumonia.

James Henry Snodgrass, M.D. University of Tennessee, Nashville, 1888; aged 79; surgeon in the Confederate service during the Civil War; for nearly forty years a practitioner of Sparta, Tenn., but since 1905 a resident of Nashville; died at his home in that city, January 30.

James Wallace Gregg, M.D. Dartmouth Medical School, Hanover, N. H., 1867; aged 72; a member of the Vermont State Medical Society; for forty years a practitioner and druggist of Brattleboro, Vt.; died at his home in Brattleboro, February 2, from heart disease.

Paul Rider, M.D. College of Physicians and Surgeons, Baltimore, 1911; aged 31; a Fellow of the American Medical Association and a practitioner of Wardensville, W. Va.; died at the home of his wife's parents in Morgantown, W. Va., February 1, from myocarditis.

William B. Campbell, M.D. University of Michigan, Ann Arbor, 1881; a Fellow of the American Medical Association and president of the Doniphan County (Kan.) Medical Association; died suddenly in his office in Troy, Kan., from heart disease, February 4.

James McHenry Howard, M.D. University of Maryland, Baltimore, 1869; aged 76; of Baltimore; a Confederate veteran; quarantine officer of Baltimore in 1881 and 1882; died in Johns Hopkins Hospital, Baltimore, January 31, from heart disease.

James Fife Hughes, M.D. University of Maryland, Baltimore, 1860; aged 81; surgeon in the Confederate service during the Civil War and thereafter a practitioner of Alleghany County, Va.; died at his home in Clifton Forge, Va., January 31.

Eric E. Wisehart, M.D. Jefferson Medical College, 1911; aged 28; a Fellow of the American Medical Association, and a specialist on diseases of the eye, ear, nose and throat; died at his home in Snow Hill, Md., January 29, from acute nephritis.

Victor Borne Chrane, M.D. St. Louis University, 1909; aged 35; a member of the Kansas Medical Society; of Logan, Kan.; died December 19, at a hospital in Concordia, Kan., from septicemia, due to an operation wound.

Royal Langdon (license, New Jersey, 1902), aged 49; a practitioner since 1896; president of the Nutley (N. J.) Board of Health; died at his home in Nutley, January 22, from heart disease.

Henry Stults Sheffield, M.D. University of Michigan, Ann Arbor, 1892; aged 50; for twenty-three years a practitioner of Elyria, Ohio; died at his office in that city, January 25, from tuberculosis.

Addrian L. Moody, M.D. Northwestern University Medical School, Chicago, 1882; aged 61; died at his home in Chicago, February 3, after an invalidism of twenty-five years from paraplegia.

Orlando B. Williams (license, Indiana, 1892), aged 67; a veteran of the Civil War, and for twenty-seven years a practitioner of Andrews, Ind.; died at his home in Andrews, January 25.

Thomas Franklin Stockdale, M.D. Jefferson Medical College, 1878; aged 63; a Fellow of the American Medical Association; died at his home in Rural Valley, Pa., January 23.

Jacob B. Ray, M.D. Starling Medical College, Columbus, Ohio, 1850; aged 89; a member of the Ohio State Medical Association; died at his home near Omega, Ohio, January 25.

John Harvey Shaw, M.D. Jefferson Medical College, 1909; aged 31; who retired from practice after two years on account of ill health; died at his home in Lancaster, Pa., January 21.

Julius Alexander Faison, M.D. Jefferson Medical College, 1886; aged 65; a Fellow of the American Medical Association; died at his home in Bennettsville, S. C., December 21.

H. W. Brashear (license, Washington County, Pa., 1884), aged 71; for nearly fifty years a practitioner of Washington County; died at his home near Beallsville, January 23.

Edward H. Goyer, M.D. California Medical College, San Francisco, 1893; aged 77; of Eureka, Calif.; died in Soldiers' Home, Calif., November 15, from pneumonia.

Raymond Watkins, M.D. Eclectic Medical Institute, Cincinnati, 1911; aged 29; of Blanchester, Ohio; died in Santa Rosa, N. M., January 18, from tuberculosis.

Franklin H. Sanborn, M.D. University of California, San Francisco, 1892; aged 46; died at his home in Fort Bragg, Calif., January 20, from pneumonia.

A. D. Wren (license, Arkansas, 1903), aged 73; one of the oldest residents of Nevada County, Ark.; died at his home in Harmony, Ark., about January 19.

Weldon W. Lea (license, Arkansas, 1903), aged 65; for many years a practitioner of Princeton, Ark.; died at his home in that place, January 22.

Leslie Tuttle, M.D. Queen's University, Kingston, Ont., 1875; aged 67; died at his home in Tweed, Ont., from fibrosis of the pancreas, November 11.

Robert Charles Grove, M.D. Columbian University, Washington, D. C., 1873; aged 65; died at his home in Shepherdstown, W. Va., January 13.

Robert L. Ray, M.D. Medical College of Georgia, Augusta, 1886; aged 50; died at his home in Devereux, Ga., January 26, from heart disease.

Tirzah Eveline Goodwin, M.D. Boston University School of Medicine, 1875; aged 64; died at her home in Whitman, Mass., January 24.

W. P. Tinsley, M.D. Kentucky School of Medicine, Louisville, 1866; formerly of Owenton, Ky.; died in November last in West Virginia.

A. I. Haines (license, Georgia, 1873) of Wrightsville, Ga.; aged 66; died in the Davis Hygienic Institute, Macon, Ga., January 19.

John H. Mock, M.D. University of the South, Sewanee, Tenn., 1898; aged 41; died at his home in Thomasville, N. C., January 26.

James J. Piper, M.D. Missouri Medical College, St. Louis, 1877; aged 80; died at his home in Chicago, January 25, from pneumonia.

James A. Peeples, M.D. Jefferson Medical College, 1868; aged 74; died at his home in Wrightsdale, Pa., January 24.

H. J. Lile (license, Arkansas, 1903), aged 47; died at his home in Cash, Ark., January 18, from pneumonia.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

AS VIEWED BY THE DRUGGISTS

The Druggists Circular Discusses the Supreme Court's Decision on the Constitutionality of the Sherley Amendment

A week or two ago THE JOURNAL published some newspaper comments on the Supreme Court's action in declaring the Sherley Amendment to the Food and Drugs Act constitutional. Our readers may be interested in the attitude taken by the better class of druggists on the same question. No publication issued in the interest of pharmacy better represents all that is good in that profession than the *Druggists Circular* of New York. This publication has consistently fought for high ideals in the practice of pharmacy and is as outspoken against medical frauds as THE JOURNAL itself. The leading editorial in the first issue of the *Druggists Circular* following the Supreme Court's decision discusses that decision. The whole editorial is worth reprinting but we have room only for the closing paragraph. This reads:

"Nostrum fakery dies hard. For a long time accustomed to getting what they wanted from legislative bodies through their 'red-clause' influence over the press, the nostrum men seem unable to realize that a day of enlightenment is dawning, that the public is coming into its own with respect to decent and honest treatment at the hands of its legislative and executive servants as well as at the hands of those who depend for existence upon the public's patronage. It may be as true now as it ever was that 'a sucker is born every minute,' but the present-day 'sucker' is being weaned from some of his old beliefs about the ability of nostrums to cure by the wholesale diseases which, treated separately and each according to its individual requirements, often baffle the most skillful practitioners of medicine. The time seems to be about ripe for those who have been growing wealthy from the sale of consumption 'cures', cancer 'cures' and various other kinds of 'cures' to change their base—to follow some honest business if they can, and if not that, then to cease attempting to apply in medicine those deceptive methods of which they are past masters."

DIARSENOL

A correspondent in Birmingham, Ala., writes:

"Can you inform me of the facts with regard to Diarsenol, advertised by A. C. Smith of Windsor, Ontario? I have heard various statements made as to the product but have not seen anything to be considered authentic or definite."

An item appeared under Canada news in THE JOURNAL, Aug. 28, 1915, page 810, reading:

Salvarsan Substitute. — Under the patronage of the University of Toronto, "diarsenol" is now being manufactured in Toronto, as a substitute for salvarsan.

Beyond this we have no knowledge of the product. The Association's chemical laboratory has not examined it nor are we familiar with clinical trials which would demonstrate its value or safety. In the advertising matter it is claimed to be chemically identical with salvarsan. It is said to be manufactured by the Synthetic Drug Company, Toronto, Canada. In a recent circular the Mills Chemical Company, Ltd., Toronto, Canada, acting as distributor, offers to supply it to American physicians, duty paid, on receipt of postoffice money order. As salvarsan is covered by United States patent, the American agents for salvarsan would probably object to the sale of a substitute.

A. C. Smith appears to be a jobber in drugs. THE JOURNAL (Nov. 2, 1912, page 1642) said in connection with the sale of contrabrand acetylsalicylic acid (aspirin):

". . . the advertisement of A. C. Smith is not calculated to inspire confidence since he appears to reside in Canada although he does business and claims to keep his supply in the United States."

Correspondence

The Kinetic Drive

To the Editor:—The recent discussion of the kinetic drive by Drs. Carlson, Woelfel and Crile must of necessity be of interest to laboratory worker and clinician alike, since it is a continuation of a discussion, in which at times I have participated, which has ranged through the clinical and scientific societies for some years past. And since, on the record of past performances, I do not think that I may fairly be classed as an exponent of the kinetic drive as Dr. Crile has formulated it, I may the more readily be pardoned for pointing out what seem to me certain errors in the argument against Dr. Crile's position. It behooves the laboratory man to be circumspect in his criticism of clinical theories, since going beyond the bounds of well established things weakens his position, not merely with reference to the particular subject under discussion, but with reference to clinical phenomena in general. In justice to Dr. Crile, therefore, I should like to call attention to a few points in the objections urged against his theory.

1. The nature of the nerve impulse. I am not aware that this question has been definitely settled, nor does a search of the literature show that a recent attempt to explain the nerve impulse on an electrical basis is a wholly isolated one. Hermann, Bernstein, Goethlin and others have held similar ideas. While it seems to me probable that there is a chemical phase as well as a purely physical phase involved in nerve conduction, there are certain serious objections to the view that a chemical phase is present. These have been summed up in a most excellent recent work on physiology written by a critical and experienced investigator (W. M. Bayliss: "Principles of General Physiology," London and New York, 1915, pp. 378 et seq.). All purely nervous processes (intellectual included) give rise to such an extremely small amount of heat that any chemical change which occurs must either be extremely slight or be of such a nature as to be accompanied by a minimal heat production.

2. While the first objection is perhaps nothing more than a matter of opinion, the second which I shall consider may be a misstatement of fact. It is boldly and forcibly stated that organic compounds of iodin, such as that found in the thyroid, do not dissociate. Several considerations enter into the account in arriving at an estimate of the validity of such a statement. We do not yet know in just what form the iodin in the thyroid is combined with the protein. Possibly it is joined to an indol group, as suggested by Kendall's recent work. And it is well known also that somewhat similar organic compounds of iodin do dissociate. In a recent work on conductivity and ionization constants of organic compounds (Scudder, Heyward: "The Electrical Conductivity and Ionization Constants of Organic Compounds," New York, 1914, o-iodobenzoic acid, m-iodobenzoic acid, p. 190), I find the ionization and conductivity constants for two iodin compounds with benzoic acid. This is the nearest approach to the compound isolated by Kendall which I have seen in the literature, but a further search might reveal one even more closely related. Few chemists of my acquaintance will venture on a prediction of the properties of an unknown compound, and until we have actually investigated the properties of the iodin compound in the thyroid, we cannot say either that it does not dissociate, or that it does. But there are certain other considerations which make it appear permissible to cling a little longer to the belief in the dissociation of the iodin compound in the thyroid: *(a)* Indol, or indeed any form of protein not containing iodin, when given as food or medicine, fails to bring about the specific results observed after administration of the iodin compound. The iodin seems to be the important thing. *(b)* The studies within the last few years by L. J. Henderson ("The Fitness of the Environment," New York, 1913, Chapter IV) and others of chemical regulation in the animal organism have impressed on the minds of many laboratory workers the great importance of small variations in the concentration of certain ions in the body fluids. These variations continually occur. This has been admirably summed up by J. S. Haldane ("Mechanism, Life and Personality," New York, 1914, pp. 49-51). Lack of space constrains me to omit the quotation. An extremely slight degree of dissociation of the iodin-bearing compound would be all that one would expect if any analogy holds between it and other organic and some inorganic compounds within the body. The action of salvarsan, an organic compound of arsenic which probably acts by slow dissociation of the arsenic within the body, is suggestive in this connection.

3. I have elsewhere called attention to a peculiar deportment of the respiratory nervous mechanism as compared with the cortical nerve cells (Pike, F. H., and Scott, E. L.: *American Naturalist*, 1915, xlix, 354). Briefly, the respiratory cells are excited by an increase in the concentration of the hydrogen ions in the blood which is too slight to affect the cortical cells. But the respiratory cells continue to act more vigorously than usual when the concentration of carbon dioxid, and presumably also of hydrogen ions, if Haldane's view of the normal stimulus of the respiratory cells is correct, in the blood has risen so high that the activity of the cortical cells has ceased and the animal is deeply unconscious. Why this is so I do not know. But such are the facts, as I have many times observed, and as I will gladly demonstrate in our laboratory to any physician or physiologist who has not observed them for himself. The phenomena have been familiar to all students of the nervous mechanism of the respiration since the appearance of Sigmund Mayer's classical description of the respiratory movements in asphyxia.

4. The question of whether Dr. Crile is justified in ascribing to paralysis or abolition of function certain phenomena that might be ascribed to inhibition is again a matter of opinion. In the realm of the nervous system, inhibition has been a much used word, often, I fear, without due consideration, on the part of the user, as to just what is involved. I have heard, in the same room at the same meeting, two different speakers attribute two different and even antagonistic phenomena to inhibition. For instance, one speaker has ascribed the condition of shock which he obtained after transection of the spinal cord to inhibition; and the second speaker, not to be outdone, attributed the earlier onset of convulsions due to drugs in an animal immediately after transection of the spinal cord to the failure of inhibition normally coming down from the cerebrum. I must confess that I was puzzled at the time, and I do not yet see how both explanations—the effect of inhibition in the one case and its absence under other like conditions—can be correct. Indeed, I have sometimes suspected that neither one is correct, and I have studied the question laboriously.

Certain very well known but not sufficiently pondered properties or peculiarities of inhibition may be cited: *(a)* The classical demonstration of inhibition, and the point from which exponents of the omnipotence of inhibition usually start, is the inhibition of the heart on stimulation of the vagus nerve. But such an inhibition, if it arises in response to electrical stimulation of the nerve, is a transient thing, and the heart does not remain motionless for more than a minute or two at a time, after which beats are resumed. It is only when some chemical stimulant, such as muscarin, is applied that the heart stops for long periods. Here, in the earliest, most clear cut and most carefully studied case of all, inhibition is a transient thing. *(b)* The heart, possibly the stomach and intestines, and other structures containing smooth muscle, and innervated, either wholly or in part by the autonomic nervous system (using the term in Langley's sense), are the only structures or organs in the body which exhibit pure inhibition, that is, a cessation of activity without an accompanying active motor response of another related structure. It is well known that electrical stimulation of the cerebral motor cortex elicits a response from a *group* of muscles, and in this response there is a contraction of one muscle, or more, and a relaxation (or inhibition) of the antagonistic muscle or muscles (Beevor, C. E.: "The Coordination of Single Muscular Movements in the Central Nervous System," THE JOURNAL, July 11, 1908, p. 89). Neither contraction nor

inhibition outlasts the stimulus by more than a very brief interval. It is difficult, or impossible, to get inhibition of any skeletal muscle or group of muscles, without contraction of the antagonists, by any stimulation applied within the central nervous system. Enough has been said to indicate my own irreverent attitude toward what Prof. W. T. Porter has called the fetish of inhibition. I would not deny to Dr. Crile the right to assume a similar irreverence if he chooses.

I may recapitulate by saying: 1. In the opinion of some laboratory investigators, the electrical hypothesis of nerve conduction is neither matter for pure ridicule, nor is the chemical hypothesis, however much we may lean toward it, to be regarded as proved. 2. Some organic compounds of iodin dissociate, as is shown by a measurement of their ionization and conductivity constants; we cannot, therefore, categorically deny that the particular unknown organic iodin compound in the thyroid dissociates until it has been isolated and its ionization and conductivity constants measured. 3. The well known phenomena of asphyxiation afford an admirable example of an agent—increase in the concentration of hydrogen ions—which will at once violently stimulate the respiratory nervous cells in the medulla and paralyze, not merely inhibit, the cortical motor cells. 4. It is neither lese-majesty nor sacrilege to refuse to recognize the omnipotence of the fetish of inhibition.

It must not be inferred that I am adducing any of these considerations as evidence in favor of Dr. Crile's hypothesis. I wish simply to show that, although some of Dr. Crile's views appear to me to be erroneous, Professor Carlson's objections are not altogether well founded. My own objections to Dr. Crile's theory are based on neurologic considerations. I have presented them, somewhat crudely, it is true, in another place (*American Journal of Surgery*, October, 1914, Supplement of Anesthesia, p. 7). In my opinion, it would not detract in any way from his theory, if he would modify some portions of it which relate to the cerebrum and cerebellum and look more closely into the possibilities for surgical evil residing in the medulla oblongata.

Although it may not be usual in correspondence, I have given references to certain sources on which I have drawn in writing this letter. Annotations would be better than references, but I have already made heavy demands on space. Therefore, I must depend on the diligence of my readers to verify what I have said.

F. H. Pike, Ph.D., New York.
Assistant Professor of Physiology, Columbia University, College of Physicians and Surgeons.

So-Called "Incipient" Tuberculosis

To the Editor:—Is it correct to use the expression "incipient pulmonary tuberculosis" when we wish to describe a pulmonary condition which has existed unchanged for months and possibly years?

The National Association for the Study and Prevention of Tuberculosis gives the following definition of incipient or beginning tuberculosis:

Slight or no constitutional symptoms (including particularly gastro-intestinal disturbances, or rapid loss of weight).

Slight or no elevation of temperature or acceleration of the pulse at any time during the twenty-four hours.

Expectoration is usually small in amount or is absent. Tubercle bacilli may or may not be present.

Slight infiltration limited to the apex of one or both lungs or a small part of one lobe.

No tuberculous complications.

This definition indicates the farthest extent of lesion or disease possible to be classified as incipient tuberculosis. This corresponds closely with the Turban-Gerhardt scale, or Turban 1, defined as a slight lesion extending at most to the volume of one lobe or two half lobes. If both lobes are involved, the involvement must not extend lower than the spine of the scapula posterior, nor lower than the clavicle anterior; in one sided involvement the extent must not be lower than the second rib.

Is it not evident after scanning the foregoing classification that so-called incipient pulmonary tuberculosis is now no longer a beginning disease, that with such findings the stage of incipiency has long since passed and the disorder is now fully established, particularly when we see it plainly stated that bacilli may or may not be present? The word "incipient" denotes the beginning of something; something that is not yet fully established, has just passed the borderline from a negative to a beginning positive state. Accepting this definition, then the term "incipient tuberculosis" as applied above should be either eliminated or used in a more restricted sense, because the disease is now no longer in the beginning stage. If the conditions of incipiency as outlined above have existed for months or perhaps years, all depending on the extent of involvement and the rapidity of the pathologic process, is it then logical or reasonable to call the stage incipient when on repeated examinations we find the same physical signs? In the history of no other disease do we continually speak of a beginning disorder when we have before us all the evidence of a long exciting malady.

Most European writers on medical topics, when they refer to primary or established pulmonary disease, usually designate it by such descriptive terms as "early tuberculosis," as "manifest tuberculosis" or as "first stage disorder." The expression "incipient tuberculosis" to denote a definite beginning involvement is never used. In speaking of early established pulmonary disease, no matter how long the disease has existed or how much primary involvement may be present, are not such descriptive terms more correct, appropriate and less misleading than the term "incipient" now in use?

John Ritter, M.D., Chicago.

Removal of Silver Stains

To the Editor:—Doubtless many of your readers have been annoyed by the stains of argyrol on their hands or clothing. It may be of interest to know that in either case a thorough rubbing with a salt grease, such as bacon grease, followed by soap and water will completely remove all traces of discoloration due to the solution mentioned.

E. Gard Edwards, M.D., La Junta, Colo.

[Comment.—The procedure for the removal of silver stains which our correspondent reports is interesting. Silver stains on towels, etc., can readily be removed by the application of dilute solutions of mercuric chlorid.—Ed.]

Oertel System of Graduated Exercises at Hot Springs

To the Editor:—With the realization of our local resources of climate, topography and government ownership of the reservation, a committee of the Hot Springs-Garland County Medical Society during the past year took up with the local representative of the Department of the Interior the question of laying out a course for the Oertel system of graduated exercise.

Having, in the past few years, spent thousands of dollars on its system of roads and foot-paths through the scenic reservation, the government readily consented to add the finishing touches to complete the system. These consisted of:

1. A careful survey to determine the degree of slant and altitude.

2. Placing at short intervals of stone markers properly numbered and colored.

3. The preparation of a small map with routes colored to correspond to the stone markers. From the back of the map may be determined at any numbered and colored stone marker the distance, degree of slant and the altitude.

The course was prepared with the view of giving 4 degrees of slant, from almost level to very steep. Along the roads are placed benches at brief intervals, and a plentiful supply of pure spring water is pumped to the top of the mountain.

It will be possible to prescribe the amount and degree of walking and hill-climbing to the minutest detail.

Our course was patterned after that established by Oertel at Reichenhall, where the paths are marked with stations, benches are supplied for resting, and the trees along the road

are marked with colored bands to represent the degree of slant.

It is believed that the Hot Springs of Arkansas will prove an ideal location for such a system. Nature has done much for the place, and through the action of the hot radioactive waters, free skin and kidney elimination are easily induced.

Much credit for establishing the system here is due Dr. W. P. Parks, superintendent of the reservation.

WILLIAM H. DEADERICK, M.D., Hot Springs, Ark.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LITERATURE ON PREVENTION OF POSTOPERATIVE ADHESIONS

To the Editor:—Please give references to literature on how to prevent postoperative adhesions. ARTHUR NEWITT, Detroit.

ANSWER.—The following is a partial list of recent articles on this subject:

Payr, E.: Iron and Magnet in Prophylaxis and Treatment of Peritoneal Adhesions, *München. med. Wchnschr.*, Nov. 25, 1913; abstr., THE JOURNAL, Jan. 10, 1914, p. 171.

Reichelderfer, L. H.: Postural Treatment of Postoperative Abdominal Adhesions, *Surg., Gynec. and Obst.*, December, 1913; abstr., THE JOURNAL, Jan. 17, 1914, p. 239.

Pope, S.: Use of Citrate Solutions in Prevention of Peritoneal Adhesions, *Ann. Surg.*, January, 1914; abstr., THE JOURNAL, Feb. 14, 1914, p. 570.

Kirchberg, F.: Treatment of Peritoneal Adhesions, *Med. Klin.*, March 29, 1914; abstr., THE JOURNAL, May 2, 1914, p. 1442.

Plotkin, G.: Application of Large Magnet in Gastro-Intestinal Derangement, *St. Peterab. med. Ztschr.*, April 14, 1914; abstr., THE JOURNAL, May 30, 1914, p. 1766.

Lyman, C. B., and Bergtold, W. H.: Amniotic Membrane for Prevention of Postoperative Peritoneal Adhesions, *Surg., Gynec. and Obst.*, June, 1914.

Henze, C. W.: Experimental Study of Silk-Tendon Plastics with Particular Reference to Prevention of Postoperative Adhesions, *Surg., Gynec. and Obst.*, July, 1914; abstr., THE JOURNAL, Aug. 8, 1914, p. 511.

Lyman, C. B.: Use of Amniotic Membrane in the Prevention of Peritoneal Adhesions, abstr., THE JOURNAL, Oct. 3, 1914, p. 1229.

Pribram, E. E.: Prophylaxis of Peritoneal Adhesions, *Arch. f. klin. Chir.*, August, 1914; abstr., THE JOURNAL, Oct. 3, 1914, p. 1238.

Wathen, J. R.: Abdominal Adhesions Prevented with Sodium Citrate in Hypertonic Salt Solution, *Kentucky Med. Jour.*, Dec. 15, 1914.

Lissovskaia, S. N., and Djanelidze, I. L.: Injection of Liquid Petrolatum Into the Abdominal Cavity to Prevent Adhesions, *Russk. Vrach.*, xiii, No. 29; abstr., THE JOURNAL, Feb. 20, 1915, p. 705.

Sweet, J. E.: Chaney, R. H., and Willson, H. L.: Prevention of Postoperative Adhesions in Peritoneal Cavity, *Ann. Surg.*, March, 1915; abstr., THE JOURNAL, March 27, 1915, p. 1107.

Lyman, C. B.: Use of Amniotic Membrane in Prevention of Peritoneal Adhesions, *Colorado Med.*, August, 1915; abstr., THE JOURNAL, Sept. 4, 1915, p. 904.

Brinsmade, W. B.: Intestinal Adhesions: Bowel Protection, THE JOURNAL, Sept. 11, 1915, p. 920.

REQUEST FOR INFORMATION AS TO SUITABLE HOME FOR SEMI-INVALID

To the Editor:—Can you give me the address of some institution where I could place a maiden lady of about 45 years of age permanently, or at least for a number of years? This is not a mental case, nor a case of tuberculosis. On account of the usual prohibitive rates, the family is not in a position to place her in a sanatorium. They could probably pay $30.00 per month, or at least $25.00, or a lump sum for her care for a number of years, or permanently. The lady is a semi-invalid and suffers from nervousness, which is greatly exaggerated by her being constantly humored by home surroundings. In other words, she is better away from home than at home. Any place where she could have a fairly quiet home and where she could be persuaded to take an interest in things would be suitable. A little directing and supervision would be essential. A. W. C., M.D.

ANSWER.—THE JOURNAL will appreciate information on the foregoing, which will be forwarded to the inquirer.

CIMEX LECTULARIUS, I. E., BEDBUGS

To the Editor:—Referring to the inquiry (THE JOURNAL, Feb. 5, 1916, p. 448) regarding *Cimex lectularius*, I would recommend the following: Procure an ounce of bromin, close the windows tightly, then remove the cork, close the door tightly, and after twenty-four hours, open and air the room. The fumes do not seem to affect anything but the bugs and their eggs; these are all put out of commission.

GEORGE F. BEASLEY, M.D., Lafayette, Ind.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, New Haven, March 14-15. Sec., Dr. Charles A. Tuttle, 196 York St., New Haven; Homeopathic, New Haven, March 14. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven; Eclectic, New Haven, March 14. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

FLORIDA: Homeopathic, Jacksonville, March 10. Sec., Dr. J. B. Griffin, St. Augustine.

MAINE: Portland, March 14-15. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MASSACHUSETTS: Boston, March 14-16. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.

MISSOURI: St. Louis, March 20-22. Sec., Dr. J. A. B. Adcock, State House, Jefferson City.

WYOMING: Laramie, March 14-16. Sec., Dr. H. E. McCollum, Laramie.

California Reciprocity Report

Dr. Charles B. Pinkham, secretary of the Board of Medical Examiners of the State of California, reports that 46 candidates were licensed from June 22 to Sept. 17, 1915. The following colleges were represented:

College	Year Grad.	Reciprocity with
California Eclectic Medical College	(1911)	Arkansas
Cooper Medical College	(1904)	Washington
University of Southern California	(1904)	Arizona
University of Colorado	(1913) Colorado; (1914)	Arkansas
George Washington University	(1912) Iowa; (1912)	Dist. Colum.
Bennett College of Eclectic Medicine and Surgery	(1905)	Illinois
Chicago College of Medicine and Surgery	(1910); (1914)	Illinois
College of Physicians and Surgeons, Chicago	(1903)	Illinois
National Medical University, Chicago	(1901)	Michigan
Northwestern University	(1904) Iowa; (1907)	Illinois
Rush Med. Coll.	(1899) Arizona; (1901) W. Va.; (1903)	Washington
	(1907 Illinois; (1912) Minnesota; (1914)	Illinois
Sioux City College of Medicine	(1904)	Iowa
State University of Iowa, College of Homeo. Med.	(1907)	Iowa
Hospital College of Medicine, Louisville	(1898)	Indiana
Medical School of Maine	(1897)	Florida
Baltimore Medical College	(1913)	Dist. Colum.
Johns Hopkins University	(1906)	Mass.
Harvard University	(1913)	Mass.
Detroit College of Medicine	(1902)	Michigan
University of Michigan, Medical School	(1904)	Arizona
University of Minnesota	(1909)	Minnesota
John A. Creighton Med. Coll.	(1903) Iowa; (1902) (1906)	Nebraska
Columbia University, College of Phys. and Surgs.	(1904)	New Jersey
Cornell University	(1900)	Illinois
Medical College of Ohio	(1906) (1907)	Ohio
Miami Medical College	(1904)	Ohio
Pulte Medical College	(1891)	Arizona
Jefferson Medical College	(1897)	Kansas
University of Pennsylvania	(1895) (1913)	Washington
University of Pittsburgh	(1910)	Penna.
Meharry Medical College	(1911)	Virginia
Vanderbilt University	(1909)	Missouri
University of Vermont	(1914)	Vermont

Connecticut Eclectic November Report

Dr. E. C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports that two candidates were licensed through reciprocity, Nov. 9, 1915. The following colleges were represented:

College	Year Grad.	Reciprocity with
Kansas Homeopathic Medical College	(1896)	Missouri
New York Homeo. Med. Coll. and Flower Hosp.	(1912)	New York

Kentucky December Report

Dr. A. T. McCormack, secretary of the Kentucky Board of Health, reports the written examination held at Louisville, Dec. 7-9, 1915. The total number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 13, of whom 9 passed and 4 failed, including 1 osteopath. Two candidates were granted reregistration licenses by examination. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Louisville National Medical College	(1912)	72
University of Louisville	(1911) 80; (1914) 79; (1915)	86
University of Oregon	(1914)	89
Jefferson Medical College	(1913)	81
University of Tennessee	(1909)	81
Vanderbilt University	(1914) 77; (1915)	84
FAILED		
Louisville National Medical College	(1912)	56
St. Louis College of Physicians and Surgeons	(1915)	66
University of Nashville	(1908)	64*

* Official reports do not give this candidate as a graduate.

Book Notices

SURGERY OF THE BLOOD VESSELS. By J. Shelton Horsley, M.D., F.A.C.S., Surgeon-in-Charge of St. Elizabeth's Hospital, Richmond. Cloth. Price, $4. Pp. 304, with 89 illustrations. St. Louis: C. V. Mosby Company, 1915.

The chief value of this work lies in what the author has to say on the technic and results in surgery as applied to the large blood vessels themselves, a field in which he has had considerable experience. His experimental work has contributed much to our knowledge of the subject, and he has helped to simplify the technic. As a result of his experiments and experience he is very careful to refute the extravagant statements which have been made regarding surgery of the blood vessels. He says: "The sensational articles that have appeared in the public press have been to a large extent unwarranted. . . . The idea that a new limb can be transplanted and will remain useful or that a kidney or goiter can be grafted from one individual to another is erroneous. These experiments, even in animals, have not been permanently successful." He then quotes Guthrie on the same subject, who said, "This is the disappointing but unanimous conclusion of experimenters." However, while this undoubtedly is the condition today, it does not mean that some way may not be discovered in the future which will make these things possible. The author finds that reversal of the blood current in the lower extremity by division of the vessels and end to end union between artery and vein has proved of little value, as the arterial blood finds its return through nearby anastomosing veins and probably does not reach the periphery. He thinks that if reversal is to be tried it should be done by lateral anastomosis rather than by end to end suture. Concerning transfusion, the author thinks it is unnecessary to make hemolytic tests of the donor's and recipient's blood before doing transfusion, as the cases in which hemolysis takes place to any serious extent are rare. In addition to the usual discussion of the surgery of aneurysms and of thrombosis and embolism, the author takes up varicocele, varicose veins, hemorrhoids, and transplantation of the anterior temporal artery in order to make the work complete. There is nothing specially new in these chapters, but the subjects have been presented in a brief and concise way so far as operative measures are concerned.

THEORY AND PRACTICE OF BLOODLETTING. By Heinrich Stern, M.D., LL.D., Visiting Physician, St. Mark's Hospital, New York. Cloth. Price, $2.50. Pp. 264, with illustrations. New York: Rebman Company, 1915.

The author aims to set forth in a systematic manner the important progress of bloodletting, especially in its more recent experimental and clinical investigations. After a historical review of the procedure, he describes the functional changes which follow bloodletting. Changes in the amount and distribution of blood effected by bloodletting, cupping and phlebostasis are readily understood. According to the author, venesection reduces blood pressure better and more lastingly than any other treatment. He discusses changes in the composition of the blood caused by its withdrawal from the blood vessels. Abnormal and deleterious substances are removed with it, but the effect of bloodletting on osmotic tension, the author thinks, is the most important. He concludes that it is the reestablishment of osmotic equilibrium or the "osmotherapeutic properties of bloodletting, heretofore unrecognized as such, that render it of such great value in quasimoribund cases." Venesection, moreover, stimulates the hemopoietic organs so that more erythrocytes are produced after blood is withdrawn than existed before, and they become more resistant as well as more numerous. The effect of bloodletting on the movement of lymph is referred to, and a section is devoted to the technic of bloodletting, cupping and phlebostasis.

It is unfortunate that a book on so important and interesting a subject is not written in more idiomatic English. Moreover, numerous grammatical errors can be found in the text, and sentences are often so involved as to make reading wearisome. Nor can we fully agree with the author's views as to the mode of action of venesection in uremia or in some other diseases.

Medicolegal

Admissibility of Testimony of Physician Making Physical Examination

(McGuire vs. Chicago & Alton Ry. Co. (Mo.), 178 S. W. R. 79)

The Supreme Court of Missouri, Division No. 1, in affirming a judgment in favor of the defendant in this personal injury case, holds that there was no error in admitting in evidence the testimony of a physician relating to statements made to him by the plaintiff, who was required by an order of the trial court to submit to a physical examination by the physician. That such communications are not within the privilege secured to the patient by Section 6362 of the Revised Statutes of Missouri, the court says is evident, for they do not come within either its letter or reason. The information was not acquired from one who stood in the relation of patient to the witness, nor was it acquired, actually or ostensibly, for the purpose of enabling the witness to perform any professional service either of diagnosis or treatment for the plaintiff, but only for the purpose of qualifying him to inform the court as a witness with respect to those facts properly included in the purposes of the examination. It was contended with much force and reason that the only justification for the rule by which a court may compel a litigant to exhibit his body to the scrutiny of a potential witness outside the limits over which its immediate supervision and protection extends is to prevent the concealment of the physical facts on which the right to recover depends, and which can be discovered only by inspection. The plaintiff insisted that it is an abuse of this power to use it to force statements from the party, which may be filtered as admissions through an irresponsible witness, instead of using the ample legal process available to secure the testimony in open court. In this case the testimony tended to show that certain physical conditions superinduced by gonorrhea sometimes cause hernia of the kind found present in the case of the plaintiff, and that these same conditions were also present, and were recognized in the examination. That it was a part of the duty of the physician to ascertain these facts, so far as they might appear from inspection, that they were relevant to the inquiry, and that he was competent to testify to them, the court has no doubt. The plaintiff testified, however, that the stricture or deposit of scar tissue which was said to be a cause of rupture had been present only two years, while the physician said that the plaintiff had informed him that this feature had existed during a period which covered the entire time since the accident in which he claimed he sustained a rupture. Thus the question was presented whether, under the circumstances in evidence, the defendant could impeach the plaintiff by the evidence of the physician as to statements not connected with his present condition elicited from him during the examination. The examination was an act of the court, whose instrument the physician was, and the plaintiff's counsel had the right to be present, as at any other proceeding in the cause, for the protection of the interests of his client. The physician did not say in his testimony that the statement of the plaintiff in regard to the time the stricture had existed had been called out by any question or suggestion of his, or that it was not, as it appeared on its face to have been, perfectly voluntary. Under these circumstances, there was no error in admitting the testimony.

Not Required to Guarantee Results—Consent to Operation Necessary—Evidence

(Zoterell vs. Repp. (Mich.), 153 N. W. R. 692)

The Supreme Court of Michigan affirms a judgment in favor of the defendant, who was alleged to have performed on the plaintiff, without her consent, two surgical operations which deprived her of the ability to bear children and resulted in an abdominal postoperative hernia. The defendant was the attending physician and surgeon for diseases of women at a hospital in which the patient, who had worked as a scrubwoman, was received. The jury found that the operations were not against her consent. That the nature of

her trouble and the probable necessity of removing her ovaries was explained to and discussed with her, the court says it thinks was shown by her own testimony, for she stated she told the defendant she did not want them taken out. The difficulties and uncertainties in the practice of medicine and surgery are such that no practitioner can be required to guarantee results, and all the law demands is that he bring and apply to the case in hand that degree of skill, care, knowledge, and attention ordinarily possessed and exercised by practitioners of the medical profession under like circumstances; and the bare fact that full recovery does not result, or that a surgical operation is not entirely successful, is not in itself evidence of negligence. As to those matters of special knowledge strictly involving professional skill and attention, unskilfulness, negligence, or failure to do that which ought to be done must be shown by the testimony of those learned in such matters. The trial judge, in a full and careful charge, positively instructed the jury that if the plaintiff did not understand and consent to the operations as performed, she was entitled to recover damages. He said, in part: In this case, and in any case of an operation, the consent of the person operated on is essential to justify the party operating in the performance of such operation, and regardless of how successful the operation may have been, how successfully performed, or how much such operation may have been needed, unless consent was given it is an unlawful operation, and the party operating is liable for whatever damages may have resulted therefrom, according to the testimony in the case. And this consent must be with knowledge and understanding of the operation itself. If you find that the consent of the plaintiff at the first operation was given for the treatment of the uterus only, and at the second operation for the repair of the hernia only, and that she did not consent to the operation for the removal of one of the ovaries at the first, and the other at the second, operation, and that the defendant did remove the ovaries at the time stated, then the consent to the operation for the cleaning of the uterus the first time and the consent to the operation to repair the hernia at the second time, could not excuse the defendant for performing an operation for the removal of the ovaries. In other words, consent must be given to the operation performed. Experts were permitted to testify as to the probability and need of an operation of the character that was admittedly performed. The jury should take this into consideration as bearing on the probability or non-probability of the plaintiff having consented to the operation in question. There was no error committed in instructing the jury that if the plaintiff understandingly consented to the operations in question, and they were performed under and according to such consent, there was no evidence in the case to sustain a recovery of damages. The testimony introduced at the trial was chiefly directed to the issue of consent, and the necessity and propriety of the operations.

Not Required to Puncture Eardrum

(McGray vs. Cobb et al. (Minn.), 153 N. W. R. 736)

The Supreme Court of Minnesota awarded a new trial in this case, which was reported in the Medicolegal Department of THE JOURNAL, Sept. 25, 1915, p. 1134. The court says that on a rehearing granted in this case the majority of the members of the court have reached the conclusion that a new trial should be had, because the evidence was insufficient to warrant the submission of this claim of improper or negligent treatment to the jury: "Was Dr. Beals justified in the exercise of the skill, learning, and diligence usual among physicians in good standing in his profession in not puncturing the eardrum before, or in not increasing the drainage through the eardrum after its rupture?" The quotation is from the charge to the jury. It is considered that the opinions of the experts furnished no basis for a finding that good practice required the eardrum to be punctured after the physician was called and before the pressure of the accumulated pus ruptured it, or that, by proper treatment, any other or better drainage could have been provided than was provided by means of the rupture thus made by Nature's force. In other respects the original opinion is deemed correct.

Society Proceedings

ANNUAL CONGRESS OF MEDICAL EDUCATION, PUBLIC HEALTH AND MEDICAL LICENSURE

TWELFTH ANNUAL CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION

Held in Chicago, Feb. 7, 1916

DR. ARTHUR DEAN BEVAN, Chicago, in the Chair

Medical Education in America

DR. ARTHUR DEAN BEVAN, Chicago: The points which I wish to emphasize are: 1. We now have as a standard of medical education a seven year course of study, as high a standard as adopted by any country in the world. 2. Today an undergraduate can obtain a better undergraduate training in medicine in the United States than in England, Germany, France or Austria. 3. Steps are being taken to make the hospital intern year a legal requirement to practice medicine. 4. In each medical center, with two or more medical schools, these should be brought together in a single cooperative scheme of medical education. 5. In the evolution of medical education in this country, the medical profession has done more to place itself on an efficient basis than any other profession or field of effort. 6. We are now confronted with the problem of placing the profession on a basis of efficiency and preparedness not only for peace but also for war. Steps are being initiated at this meeting to accomplish this.

Progress in Medical Education

DR. N. P. COLWELL, Chicago: From 1865, just following the Civil War, the number of medical colleges in the United States was rapidly increased until in 1904, 166 separate institutions were reported. The rest of the world then had 154. During this time, however, forces were being developed which would eventually demand an entirely different type of medical teaching institution. It was during the same period that Pasteur, Koch, Klebs, Löffler, Pfeiffer, Kitasato, Frankel, Obermeir and others made their remarkable discoveries in the field of bacteriology, which were destined to revolutionize the practice and teaching of medicine. During this time antiseptic surgery had its beginning, and the foundation was laid for the prevention of epidemics and for the saving of untold thousands of lives through the use of antitoxins and serums. During this time medicine was placed on a more sound, scientific basis than it had ever previously held. Epoch-making discoveries, however, have continued since that time and are still placing at the disposal of the medical profession definite and verified knowledge in regard to the etiology, treatment and prevention of disease.

Conditions in 1900, therefore, were ripe for the beginning of the campaign which the American Medical Association inaugurated through its Council on Medical Education. As a result, the number of colleges has been reduced by 43 per cent., the total number of medical students has been reduced by nearly 50 per cent., and the annual number of graduates has dropped nearly 40 per cent. The totals last session were ninety-five medical colleges, 14,891 medical students and 3,536 graduates.

While statistics show that the total enrollment of students has about reached its lowest ebb, the number of colleges will doubtless continue to show a decrease, owing to the general adoption of higher entrance standards. There is no danger of a dearth of medical colleges, however, since it can be seen that fifty or sixty medical colleges could easily care for all the students enrolled during the session of 1914-1915 in the 102 medical teaching institutions.

COLLEGE FINANCES

Of the ninety-five medical colleges now existing, eighty reported total incomes for the session of 1914-1915 ranging from $411,570, the highest, to $4,529, the lowest. The average for each college was $65,137, and the grand total was $5,211,002.

In students' fees the income for each college ranged from $113,523, the highest, to $500, the lowest. The average income from this source was $22,388, and the grand total was $1,791,013. It will be noted, therefore, that the fees paid by medical students cover a little more than one third of the total income of the medical schools.

Included in the income obtained, aside from students' fees, thirty-four colleges reported the receipt of a total income from endowments of $1,164,602, or an average of $34,253 for each of the thirty-four institutions which reported income from this source; twenty-eight colleges reported an income from states or municipalities amounting to $864,285, or an average of $30,868 for each institution.

The total enrollment in these eighty medical colleges during the session of 1914-1915 was 12,103. The average income received from each student in tuition fees was $148, whereas the average expenditure for each student was $417. On the average, therefore, the cost of teaching each student last year was nearly three times greater than the amount he paid in fees in that year.

CHARTERING OF COLLEGES

Through the lack of an adequate check on the chartering or conduct of such institutions, a new and popular form of quackery has been established. This lack provides the easiest present day method of evading the educational requirements of the medical practice laws. Colleges and schools professing to turn out in a few brief weeks or months, by correspondence methods or otherwise, specialists in some branch related to medicine have been springing up in various states.

The literature which they send out leads students to believe they will be prepared to treat human ailments skilfully. The students enter in good faith, pay fees usually larger than those demanded by the best medical schools, waste months or years of valuable time, and may go on for years before they learn how totally inadequate was the training furnished.

The largest number of these institutions at present is found in Illinois, where conditions are especially favorable. Besides the two Class C schools which continue to exist, there are in Illinois colleges of osteopathy, chiropractic, chiropody, naprapathy, somopathy, physcultopathy, refraction, optics and a legion of others, most of which have for their chief inducement elegantly printed diplomas conferring the degree of doctor of this, that or the other.

In Iowa a ridiculous situation exists, where several so-called chiropractic institutions have been chartered which, without adequate equipment, and with scarcely any entrance requirements, are turning out, by correspondence courses or other loose methods, many of those who profess to cure all kinds of diseases by manipulation of the spinal column. These graduates, although "made in Iowa," are not permitted to graze on Iowa soil, but go to states not having adequate legal barriers.

The greatest problem which state licensing boards are now being called on to solve is in connection with the "graduates" of the drugless healing colleges.

In Ohio, a year ago, the chiropractors and several medical sects were clamoring for separate boards and the provision for lower educational standards than were required of physicians. To prevent the confusion which would result from the multiplicity of boards, an amendment to the medical practice act was obtained, placing the control of all medical cults under the state medical board.

A new medical practice act has been secured in Wisconsin which provides the same educational standards for osteopaths as are required of physicians.

SYMPOSIUM ON THE RELATION OF THE LABORATORY COURSES TO THE WORK OF THE CLINICAL YEARS

DR. ELIAS B. LYON, dean of the University of Minnesota Medical School, Minneapolis, read the first paper on this subject.

DR. LEWELLYS F. BARKER, professor of clinical medicine, Johns Hopkins University, Medical Department, Baltimore, followed with a paper entitled "Relation of the Preclinical Laboratory Courses to the Work of the Clinical Years."

DR. JAMES EWING, professor of pathology, Cornell University Medical College, New York, read a paper entitled "Principles and Experiments in Medical Education."

DR. FREDERIC S. LEE, professor of physiology, Columbia University College of Physicians and Surgeons, New York, read a paper entitled "A Proposed Undergraduate Course in Clinical Pathology."

These four papers will be published in full next week.

Discussion on the Relation of the Laboratory Courses to the Work of the Clinical Years

DR. WILLIAM T. COUNCILMAN, Boston: For a great many years I have endeavored to make a close analysis of students. The number we have to teach has increased so enormously that we are constantly attempting to teach too much, and sometimes we lose sight of the fact that in these preclinical courses the men should be trained in scientific methods. Students should come into the medical school with a scientific method of study inculcated in them, but they do not. They come from colleges to us knowing nothing thoroughly, so that the teaching of the class of men we have in the first two years is very unsatisfactory. We are not going to make it very much more satisfactory by increasing the demands. It is not the amount but the training which they should have before they come to us. This thoroughly inefficient method of education goes down to the bottom of the primary and secondary schools and colleges.

Formerly, there was a strong line of demarcation between the preclinical studies and the clinical studies. That line no longer exists. The men who have a scientific ideal can attain the fulfilment of it just as much in medicine or surgery as in physiology and pathology, so that for certain men the time in the preclinical years could be shortened.

As to the admirable course mentioned by Professor Lee, such instruction can be had now in the best hospitals. That course is one which should be given not in the laboratory but in the hospital, bringing together physiology and clinical medicine. Formerly, we had only one scientific discipline—anatomy—and then added physiology and pathology, and later all of the others. We are constantly striving to teach men too much, and in so doing lose sight of what is really our great function—that of imparting method and scientific discipline.

DR. FRANK BILLINGS, Chicago: I wonder how many of us can go back and take the point of view of the student. What Dr. Councilman has said is true, that our curriculum is a stuffing process, and I am afraid, as Dr. Barker has pointed out, we do not think of the student as a human being. We lay out an amount of work without respect of the individual, his caliber, and what his environment may be in his private life, and we force him to take so much of the pabulum. Medical education has improved enormously, especially in the last ten years. There is hardly a school that can exist now in this country that has not full-time teachers in the so-called fundamental branches. It is necessary that the student be grounded in these fundamentals. We know that the fundamental teaching is rational in many of the schools of the country. Many teachers have learned that in their studies they need to study men as well as animals in making their tests.

I was glad to hear what Dr. Lee said about teaching physiology. It has always seemed to me that physiology should be taught on the human being as well as on the animal.

In relation to the laboratory courses and clinical medicine, no one has discussed the relation of the teachers in the

different departments. There is a feeling of hostility that is rather general in most medical schools of the country between the laboratory man and the clinical man. Part of it is justified; a great deal of it is not justified, and much of it would disappear if we could have closer relation between teachers of the so-called laboratory branches and clinical teachers. The motives of the clinical teacher would not be impugned so much as they have been in the past. The clinical man can help the laboratory man very materially and make his work much more interesting to him, and the laboratory man can be of the greatest use to the clinician. While I believe in the organization of departments, so that one may apply the fundamentals to clinical medicine, as Dr. Barker has said, still we should have a closer relationship between the laboratory men and the clinical men. There would not be any disputing, or much if any suggestion about the incompetency of the ileocecal valve, if the physiologist would come into the clinic and help to study the cases. If there was a closer relationship between the different departments we would not have a clinician saying that laboratory tests for secretions of the digestive tract, especially the stomach, are of no use; he would have different knowledge if he kept in touch with the laboratory man. So we need to apply all that to the student. We need to think of those who are going out to make practitioners because mighty few will become research workers, and not all of them can get training in research in a medical school.

Osler handled a body of students as though they were human beings. He did not try to teach them so many facts, but he taught them how to study disease as an unnatural phenomenon. He made them read literature because it was a part of their work in reference to the study of disease. He taught them principles.

DR. ROBERT C. COFFEY, Portland, Ore.: If I understood Dr. Ewing, he belittled the intern year. With experience as a state medical examiner, the most pitiful thing I have ever seen is the man who is not only a college graduate, but also a graduate of one of our great universities, withering and dying in his community with all of his knowledge because he has not been taught how to handle patients. The country is full of such practitioners. We have in our community a large number of men who have been educated in the very best universities of the country, yet who are becoming discouraged and probably going into the orchard business or some other commercial enterprise because they have never been able to deal with people. On the other hand, in our community the leading practitioners are the men who have had from one to five years' experience as interns. What I have said actually occurs in practice. The man who has been educated, but has not had an internship, is unfitted to meet and to make his way with the men who are the graduates of perhaps some inferior school, but who have had training as interns.

JOINT SESSION OF THE COUNCIL ON MEDICAL EDUCATION AND THE FEDERATION OF STATE MEDICAL BOARDS

SYMPOSIUM ON THE NATIONAL BOARD OF MEDICAL EXAMINERS

Reasons for a National Board

DR. WILLIAM L. RODMAN, Philadelphia: What are the reasons for a national board? Every one will admit the impossibility of having a uniform standard where there are fifty states, some of these states having multiple boards. It is to protect men who, on account of ill health or sickness in their family, or for some other reason, wish to change their location that the national board provides them with a certificate which they can file away, and we hope in time will be accepted in many or all of the states of the Union. We cannot have a compulsory national board since the police powers are with the state, but a voluntary board is certainly feasible and can have general acceptance. It only requires reasonable concessions from the existing agencies. A national board, to deserve and secure general acceptance, must maintain a higher standard than a board whose examinations can legally be made compulsory. The law contemplates and enforces only ordinary or average standards, so that this voluntary board should be placed on a much higher standard. A man does not have to take the examination of this board if he does not want to, and therefore the standard can be and should be made higher than if it were a compulsory board.

Should such a board be controlled by the government or be a federal body? The answer is that it is neither possible in fact nor desirable in theory. As a central board cannot have the official endorsement of the government, it should be allied with a teaching foundation of high standard and of national scope. This board is allied with the Carnegie Foundation, one of the widest scope, one which has done excellent work in elevating the standards of general and preliminary education. The Carnegie Foundation has given the board $15,000 a year. The Army Medical Museum has provided spacious rooms for conducting the examinations in a building which contains the largest medical library and one of the best collections of pathologic specimens in America. These are available to the applicants while in Washington preparing for the examination. The army and navy medical schools and the laboratory of the Public Health Service offer more than ample facilities for conducting a thorough oral, written and laboratory examination in all of the branches, including specialties. The laboratory for operative surgery in the naval school is easily the best we have seen. The chemical laboratories in each of the three government services are both commodious and complete. The Roentgen departments are well appointed, and there are abundant microscopes, dark room for the use of ophthalmoscopes, etc.

The clinical advantages offered by the government hospitals could not be better or more varied. The full capacity of the several government hospitals is about 5,000 patients, certainly sufficient to offer every facility for clinical examination.

The greatest advantage which Washington offers over other places is that an assistant or substitute for any one of the regular examiners, in case of illness or other unavoidable absence, could be furnished on short notice, as there are specialists in all departments, members of the respective corps, detailed in the schools and laboratories and free from the demands of private practice. The board consists of fifteen members. The constitution has been amended to provide for two additional representatives from the Federation of State Medical Boards as soon as vacancies occur in 1918. Then six members will represent the government services, and three will represent the Federation of the State Medical Boards. The remaining six members will be chosen at large, with due reference to geographic distribution, but not necessarily representing any association.

Relationship with the Government Medical Services

THE ARMY

DR. W. C. GORGAS, Surgeon-General, United States Army: The formation of this national board has been of great interest to the medical department of the army as a possible medium of increasing our reserve corps. Heretofore the function of the medical corps of the army has been to take care of the regular army in time of peace, but during most of its existence the regular army has been at war. When the nation was not at war we had the Indian wars on our hands.

Before the Civil War, the regular army comprised 25,000 men, and it did not take a large corps of medical officers to look after the sick. When the Civil War broke out there were seven regular medical officers to each thousand men, and they were greatly handicapped and played very little part. After the Civil War the regular army returned to its previous proportions, and was about the same when the Spanish-American War broke out. The lack of adequate care of the sick during that war was so striking that a board was officially called to look into the subject, and this board made several recommendations which the government adopted. The recommendations of the Dodge Commission

were briefly that there should be seven regular medical officers per thousand men and that provision should be made for hospitals with necessary delicacies. Then came the question of improvement in transportation, whereby the medical supplies could be sent to the front.

In 1898 the Medical Corps was increased to the ratio suggested by the Dodge Commission, seven per thousand men, but the army has also been increased to about 106,000 or 107,000, so that we now have only five medical men to each thousand. To meet expansion in cases of war, a law was enacted authorizing the organization of the Medical Reserve Corps. This has been brought up to about 1,500 men, and steps have been taken, more or less, to prepare the men for actual war service. The Dodge Commission had in view a smaller army and less preparation than we now have in view. They recommended stores for four times the regular army in time of peace, and the personnel and organization of our present reserve corps is to be established on the same basis. Much depends on the appropriations that have been made. We have medical supplies of a permanent character stored for 250,000 men. We have a reserve corps to man that number of men, but the training of the reserve corps has to be restricted on account of appropriations. We cannot order men to the various camps or put men in the field or pay them for the time they put in with the troops. We are on the eve of an expansion, and some method of expanding the reserve corps is also very essential.

A bill at present before Congress contemplates bringing the regular army up to 140,000 men and increasing the regular medical corps in the ratio of five per thousand men. The enlisted personnel of the medical corps can be increased under the present law as the authorities see fit. The bill contemplates in three years a total army of 400,000 men, one third to be enlisted each year. The bill contemplates a second increment of 400,000 men, so that ultimately we would have an army of nearly a million men. The proper manning of this number of men on a war footing would require about 10,000 medical men.

I have taken the ground that the medical care of 140,000 men would require at least seven medical officers per thousand, and an enlisted force of fifty per thousand. But that contemplates merely the executive care and care of the regular army. Our great function is the training of these 10,000 men that we hope to get into the Medical Reserve Corps. To accomplish this we should have as large a number of regular officers commissioned in the army and noncommissioned officers as Congress can afford. That will give ten per thousand men to whom we can give a certain amount of training, but if they give us 20,000 we could scatter 10,000 regular officers to serve with the troops and accomplish much more. I think the National Board of Medical Examiners will be a great measure for recruiting our reserve corps. This board has many other advantages, but I simply advocate it from the army point of view. So far as the army is concerned, it will certainly be supported.

THE NAVY

DR. W. C. BRAISTED, Surgeon-General, United States Navy: The idea of a central examining board whose certificate should be of such high character that its acceptance by every state, territory and possession of the United States would be assured has been in the minds of many of the profession for the past twenty years. We medical officers of the navy feel that physicians should be entitled to practice within our own country at any time or place. As medical officers of the navy, our duties are constantly shifting us from place to place, bringing us under ever-changing conditions at the most unexpected times. In times of emergency, in war or disaster, in situations in which no other professional help is available, we feel that we should be protected by some provision of this kind to make our services of full value to the nation. The possession of a certificate of the national medical examining board by an applicant for the Naval Medical Service would undoubtedly be of great value in showing his fitness for the medical corps of the navy, in either the active or the reserve corps.

What has been outlined describes in the main the relationship of the navy to the national medical examining board. The navy has no special relationship with the contemplated board. In national movements the services are frequently, almost daily, called on to assist and help to establish and organize measures for the nation's welfare and advancement. This movement to establish a national medical examining board is one of these great endeavors for the country's welfare, and it thus becomes our duty, as servants of the people, to attempt to aid by every means in our power your efforts in this direction.

THE PUBLIC HEALTH SERVICE

DR. JOHN W. KERR, Assistant Surgeon-General, United States Public Health Service (representing Surgeon-General RUPERT BLUE): Surgeon-General Blue desires to do whatever he may to elevate the requirements and the standing of those engaged in the practice of medicine. He feels that by reason of a movement of this character it would be possible for our diplomas and requirements in this country to be accepted in greater degree by other countries. It is the desire of Surgeon-General Blue by every means possible to stimulate interest in the advancement of the public health and encourage and stimulate the medical profession to engage in this work to a greater degree.

The surgeon-general's connection with the board must of necessity be of an unofficial character. He believes that eventually it will be practicable by this means for the government to recruit for the services to which I belong and to provide for greater interest in public health work and to favor appointments in time of epidemics without additional examination.

Relationship with State Medical Licensing Boards

DR. HERBERT HARLAN, President of the State Medical Examining Board of Maryland, Baltimore: Protection of the people is a state police function, and without an amendment to the constitution of the United States cannot be taken over by the national government. Such an amendment is not to be hoped for. State medical examining boards must continue, but as a large number of state boards (forty-one) have the legal authority to recognize, as sufficient guarantee of fitness, examinations conducted by boards of other states—examinations in regard to the conduct of which, in many instances, little is known and nothing inquired into—there is no legal objection to a change of statute granting a state board the authority to recognize the certificate or diploma of a national board as sufficient evidence of medical qualification; but only if, in the good judgment of the state board, the examinations, written, oral and practical, conducted by the national board are of such a character as to justify its acceptance.

Early in December I wrote to the secretaries of sixty-three boards of fifty-three states and territories, asking whether each board had the power to accept the examination of a national board in lieu of their own examination. Forty boards (in thirty-eight states) answered "No," and four "Yes"; two were doubtful and two noncommittal.

In reply to the question whether the board would be willing to license physicians who had passed the national board's examination without requiring them to take their own, seventeen replies were received, eight negative and nine affirmative. Twenty-three states would be willing to ask their legislatures to amend the laws so as to give them power to do so.

The answers to another question show that the present organization of the board and its plan of continuance is satisfactory to twenty-three and unsatisfactory to six, while thirteen would like some modifications.

To summarize, only a few boards have legal authority at this time to accept the national board, probably eight. Of those having no authority, however, 71 per cent. expressed themselves as willing to ask for legislation enabling them to do so.

It is expected that each state board will exact the same fee for recognition of the examination of the national board that they do now for the recognition of the license by another state.

The success of this movement to establish a national board of medical examiners depends on the acceptance of its certificate of proficiency by all, or nearly all, of the various state boards.

Educational Standards

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: It is a matter of great importance what standards are adopted by this examining board after it goes into existence and begins its work. In the first place, we will expect that those who come before the board shall have had a fundamentally broad education; that each applicant shall at least know how to use his own language or the English language correctly. In the second place, it will be expected that for scientific and medical purposes, at least, each applicant shall know either German or French, or both. So far as the physical sciences are concerned, there can be no question that medicine is nothing more nor less than the application of the facts of biology, physics and chemistry to the prevention and cure of disease.

In recent years I have failed to see any distinction between the laboratory man and the clinician. Within the last twelve months it has been my good fortune to visit every important medical school in the United States. I found last week a distinguished professor of clinical medicine in one of the great schools in New York trying to separate a special globulin from the blood. Of course, I was quite at home in physiologic chemistry. I found another man in one of the large schools trying to crystallize a poisonous substance from the blood of a uremic patient.

It is the unanimous opinion of the members of this prospective board that at least two years of college work, in addition to the high school course, should be demanded for admission to an examination before this board. To demand less would be to go back. As we have been told, nine states already demand and three states more have notified that they will demand it, and there is scarcely any doubt that within a few years the majority of the states will be demanding it.

You have heard the surgeon-general of the army telling us that passing this examination would admit to the reserve medical corps of the army. With this understanding it would be absolutely necessary that the men who pass this board shall have not only a general but also a somewhat specific knowledge of camp sanitation and of the wounds of war. I cannot see any way of getting around this. I am sure the medical profession would not have it otherwise. It was my good fortune to spend a short time in the army in 1898, and I recall today very vividly the fact that 20,000 of the 100,000 young men who enlisted in the service of this country were either flat on their backs sick, dead or dying of typhoid within six weeks. I recognize what unpreparedness is responsible for, and I am sure the medical profession was not to blame for that in 1890, and does not want to be blamed for anything similar to it that may arise in the future.

Details of Operation and Examination

DR. ISADORE DYER, New Orleans, discussed the constitution and by-laws for a national board of medical examiners, and presented specimen blanks to be used in connection with the examinations.

Discussion on The National Board of Medical Examiners

DR. C. ST. CLAIR DRAKE, Springfield, Ill.: There can be no controversy as to the advantages which would accrue to the members of the medical profession if there could be devised some plan whereby one medical licensure would permit practice in any and all parts of the United States. The continued efforts to establish and extend interstate reciprocity in medical licensure bears evidence of a firm and growing acceptance of the value and justice of such an arrangement.

Legal obstacles, however, such as have always stood in the way of nationwide licensure by the federal government, remain in Illinois, as well as in other states as barriers to participation in the plan of the national board.

Under the Illinois law, the state board of health is charged with certain specific duties relative to the examination and licensure of physicians, and it has been repeatedly held that a duty and authority so imposed cannot be delegated to extragovernmental organizations. Certainly under the existing Illinois law, the state board of health could not turn over its examining and licensing function to the National Board of Medical Examiners, nor could the state board of health accept the certificate of the national board in lieu of examination as subscribed by law.

In an opinion recently rendered by the attorney-general of Illinois, it is definitely stated that any law enacted by the general assembly providing for the delegation of the examining and licensing power to an extragovernmental organization of any kind would be construed as class legislation and would consequently be declared void.

It would be entirely consistent with the medical practice acts now in force in many of the states to create a general commission of medical examiners, to be made up preferably of the various state examining and licensing boards. This conference or commission could formulate the rules by which each board could have equal voice with any other in control of the organization. These rules would also specify the manner in which medical examinations would be conducted in the several states, the subjects to be covered and the relative weight and importance to be given to each subject included in the examination. The rules would be such as to guarantee, so far as practicable, absolute uniformity in character of questions, arrangement of subjects, and detailed methods of examination to be employed by all boards party to the conference or commission.

The rules thus formulated would be presented and adopted as the rules of the individual states, so that in each state they would become the legal and official rules.

One of the important functions of the commission would be the preparation of examination questions for use by the component boards. A sufficient number of physicians, members of the different boards, could be assigned to the preparation of the questions. The questions so prepared would be transmitted in sealed packages to the various states in which examinations were to be held, and could be formally adopted by the individual boards, the seals not to be broken, however, except in the presence of the assembled candidates for licensure.

As I see it, practically the same results can be obtained by the commission outlined, as by the National Board of Medical Examiners, with the essential difference that the former could operate in harmony with the laws now existing in Illinois, while the latter, being purely an extragovernmental and voluntary agency, cannot in the opinion of the attorney-general of Illinois be utilized lawfully by Illinois and certain other states.

(To be continued)

NEW YORK ACADEMY OF MEDICINE

Regular Meeting, held Jan. 6, 1916

METHODS OF PRECISION IN DIAGNOSIS OF SYPHILIS

Serum Diagnosis of Syphilis

DR. HOMER F. SWIFT: The value of the Wassermann reaction as a diagnostic procedure has been called into question. This is because it presents a mechanism in immunity hitherto unrecognized. In performing the test, five different biologic substances are employed, four of which may be considered as reagents which have not the fixed value of chemical bodies, but which vary in their properties according to the method of preparation, age, manner of preserving and other factors which are not understood. Because of the lack of uniformity in performing the test, the results should be judged from the clinical point of view. If the reports from a laboratory vary to any marked degree when the serums from a group of patients are submitted from time to time, it is safe to conclude that the methods employed in that laboratory are not well standardized. Whatever level is chosen can be fairly closely maintained by paying attention to the following

points: 1. One should have a certain standard for the various components of the hemolytic system which must be tested each day. 2. One should use several antigens and compare a new one with old ones of known value before accepting it. 3. One should insert as controls not only serums which on the previous day gave strong positive and completely negative reactions, but also a serum which has given partial fixation. This is the most important control, for by means of it one is always able to determine whether his reactions are of approximately the same intensity from day to day. This uniform level of reactions is especially required when the serum of a patient is to be tested after a provocative injection of salvarsan. The antigen with the most constant value is the cholesterin reinforced alcoholic extract of human or guinea-pig hearts, which also gives the highest percentage of positive reactions in all stages of syphilis, but especially in the late forms; it also persists longer in a patient under treatment. The chief criticism brought against it is that it gives too high a percentage of reactions in nonsyphilitic patients; but with proper precautions the occurrence of nonspecific reactions is rare. In the Wassermann there are group reactions as well as in other diseases caused by the spirochete, namely, yaws and relapsing fever. Trypanosomiasis and malaria also react positively and are amenable to salvarsan treatment. In tuberculosis, malignant disease and diabetes the reaction has been reported positive, but this often may be explained by the presence of a concomitant syphilis. In certain of the acute infections, as scarlet fever, pneumonia and poliomyelitis, a transient positive reaction is occasionally encountered, but it disappears with or shortly after the crisis and is never encountered in the cerebrospinal fluid of these patients. The demonstration of the *Spirochaeta pallida* in a suspicious ulcer proves the lesion to be syphilitic; the demonstration of a positive Wassermann reaction proves that generalized distribution of the virus has taken place, and the earlier diagnosis is made and treatment instituted, the better is the chance of complete eradication of the disease. It is very important to recognize the comparative value of the Wassermann reaction and spirochete search. Disappearing reactions are better indicators of sufficiency of treatment in late syphilis than in the early stage of the disease. A persistent positive reaction indicates the presence of syphilis somewhere in the body, and the first three or four years of treatment should be continued until the reactions remain negative. With reactions that cannot be influenced, a course of treatment should be given annually. In aortitis, persistent reactions while the patient is under mercury and salvarsan disappeared on continued administration of iodids. Because of the variability in the various reagents and lack of uniformity in performing the test in various laboratories, it is essential that there should be close cooperation between the laboratory and the clinician, for the clinician should be the interpreter of the reaction.

Study of the Cerebrospinal Fluid, and Its Value to the Practitioner

DR. GEORGE DRAPER: The four examinations to which the spinal fluid is subjected are the cell count, globulin determination, Wassermann reaction and the Lange gold test: changes in the cerebrospinal fluid, such as definite increase of pressure, multiplication of cells, positive globulin, no matter how faint, and positive Wassermann reactions in amounts of 1 c.c. or less. The cerebrospinal fluid shows changes in 100 per cent. of the early cases. The globulin test is the first to appear positive and the last to go. There may be marked pathologic changes in the fluid in cases of late syphilis for long periods of time before any signs or symptoms develop. All cases of frank tabes, paresis and cerebrospinal syphilis have pathologic fluids. In a certain group of syphilities with vagus nerve disturbances, the spinal fluid may be normal in all points except the globulin. In such instances the isolated globulin finding becomes highly suggestive of a meningeal involvement of syphilitic nature. A provocative treatment should be instituted in such cases.

Value of the Colloidal Gold Test in the Diagnosis and Prognosis of Syphilis of the Central Nervous System

DR. JOHN A. FORDYCE: It cannot be emphasized too frequently or too emphatically that the fate of the syphilitic individual depends largely on the early diagnosis of his infection and the intensity with which the treatment is carried out in the first six months. It is in the accomplishment of this purpose that the modern aids to diagnosis have rendered the practitioner invaluable service. It is impossible for even a trained observer to recognize by his sense of sight and touch alone all that can be revealed by the laboratory. Chancroids frequently harbor the organism of syphilis, and owing to the longer incubation period of the latter, do not develop their characteristic features until after the expiration of two or three weeks, or they may entirely fail to develop any induration. The secretion of all these lesions should be searched for the *Spirochaeta pallida*, and with failure to find it, a favorable prognosis should be withheld until repeated examinations, including the Wassermann test, have been made. The dark field is especially valuable in developing chancres before they acquire their clinical characteristics. The tabetic syndrome may be simulated by the multiple neuritis of diabetes or alcoholism, and the real nature of the trouble revealed only by the spinal fluid analysis and the blood test. On the other hand, patients with syphilitic involvement of the central nervous system and suffering from obscure pains, febrile attacks, irritability, gastric and rectal crises, memory failure, etc., are often treated for years for neurasthenia, rheumatism, neuritis, surgical affections and various other conditions. In the light of recent investigations, an analysis of the spinal fluid is not complete unless the colloidal gold test is performed in addition to the Wassermann reaction and the cytologic and chemical examination. There is, as a rule, a parallelism between it and the other positive findings in the fluid. The typical paretic curve has been encountered in every case of paresis examined, and in three cases has been reversed to the syphilitic curve. This improvement did not, however, run parallel with the abatement of clinical symptoms, as one patient who, in addition, was negative in all the other laboratory findings, was slowly deteriorating in spite of treatment pushed to the point of tolerance. Definitely syphilitic processes, as cerebral endarteritis, abortive or stationary forms of tabes and some types of cerebrospinal syphilis may give a completely negative Wassermann. It is in these cases that the gold test is of value in demonstrating the syphilitic nature of the conditions. Its greatest value, however, is in distinguishing between paresis and the conditions which simulate it, as well as its prognostic significance in tabetics who show no mental impairment but give a paretic curve. Postmortem findings have shown that the anatomic changes in paresis may long antedate clinical manifestations. In patients who are under continuous observation, and especially those who are receiving intraspinal treatment in whom the fluid can be examined at regular intervals, the presence or development of the paretic curve should excite a strong suspicion that later these patients may develop the clinical syndrome of paresis, and I am advising the family or business associates of such patients of the possibilities in the case. Active treatment in these cases may anticipate, delay, or arrest the degenerative cerebral changes.

DISCUSSION

DR. SIDNEY R. MILLER, Baltimore: There can be no argument concerning the nonspecificity of the Wassermann reaction in the Ehrlich sense of the term. There is little danger of our seeing cases of yaws, recurrent fever and frambesia in this part of the world, and practically the only other disease which has ever given us questionable results has been malaria; but this condition is always easily ruled out by finding the malarial parasites, and in a failure to do this, a course of quinin, followed by a second Wassermann, will usually decide a doubtful case. As a result of the experience of five different laboratories, we have come to feel that an unequivocal positive Wassermann reaction, preferably with

three, but not less than with two, in a technic suitably controlled in which accuracy of result has not been sacrificed to delicacy of method, is clinically a specific evidence of existing syphilis. Our experience has been by no means unique, in that the Wassermann reaction has cleared up most difficult cases, and in a number of instances has clearly shown the casual or constant etiologic relationship of syphilis to the diseases under consideration. The point which needs the greatest emphasis, however, is that the closest cooperation must exist between the laboratory worker and the clinicians in the ward. The attempt to divorce one from the other is bound to lead to dangerous misinterpretations. The fallacy of the statement that our treatment of syphilis has not been advanced since the introduction of the Wassermann reaction will become apparent to any one who calmly analyzes the statement. No doubt patients have been treated who were not suffering from syphilis, but rather from a faulty application of the Wassermann test. The harm done by such misplaced therapy is nothing as compared with the good that has been achieved on the great mass of unfortunate sufferers. Out of a series of approximately 1,500 Wassermann reaction tests in which the serum or spinal fluid was tested against three different antigens, the results were absolutely parallel in over 97 per cent. of the cases. In seven cases fixation was given alone by the cholesterinized antigen. In all of these a subsequent lumbar puncture revealed the fact that the individual was suffering from some type of syphilis of the central nervous system. This brings up two points which need particular emphasis: 1. A suspected spinal fluid should not be regarded as negative unless it is so when ten times the original volume suggested by Wassermann is used in the reaction. 2. Physicians should demand a report which clearly states against how many antigens and in what amounts a spinal fluid or serum has been tested.

DR. EDWARD D. FISHER: I would place the diagnosis of syphilis much more surely on clinical observations than on the laboratory findings. The clinical side has been studied for so many years that a pretty exact knowledge of the manifestations of syphilis of the nervous system has been established. In this connection it might be mentioned that we have syphilis of the heart, of the lungs, of the liver, of any organ; that syphilis, in other words, has a selective choice as to situation. Probably more than 10 per cent. of the patients affected with syphilis have disease of the central nervous system. Again there is a selective choice of certain parts of the nervous system; in some cases there might be involvement of the meninges and blood vessels, and in others the cell structure. That has been observed clinically by Mott of London when he divides cases into the meningovascular, and cellular or parenchymatous, as tabes and general paresis. In my early experience with the early symptoms of syphilis I found that one sometimes got a basilar meningitis and ocular paralysis, and that under proper treatment these conditions almost invariably clear up. There are some clinical conditions in respect to which we seem to agree, and one of these is that paresis is rarely preceded by tabes if the latter is typical in character.

DR. SIGMUND POLITZER: It is the duty of the practitioner when he sees a case of primary syphilis to make an examination for spirochetes in the initial lesion, because syphilis during the first few weeks or months is curable. The diagnosis may be made by the dark field illumination, but this is not the only way. The India ink method is absolutely reliable. The majority of syphilitics show during the first weeks some irritation of the central nervous system, but only a small proportion develop cerebrospinal syphilis, and to treat these early cases for cerebrospinal syphilis by intraspinal injection is an unjustifiable procedure. There is no single test that has the value of the Wassermann, but it must be interpreted with intelligence. So far as the diagnosis of syphilis goes, I feel that we should be lost without the Wassermann test. In doubtful cases this test gives definite information, and subsequent treatment has demonstrated its correctness.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

February, XI, No. 2, pp. 85-176

1 *Tuberculosis in Infancy. C. H. Dunn, Boston.
2 Types of Hydrocephalus; Their Differentiation and Treatment. C. H. Frazier, Philadelphia.
3 Metabolism Studies in Hemophilia. M. Kahn, Pittsburgh.
4 Carmin Test for Duration of Complete Food Passage in Infants and Children. A. Hymanson, New York.

1. Tuberculosis in Infancy.—In a series of sixty-two successive necropsies, Dunn says, tuberculosis was found in twenty-five, and was considered the direct cause of death in twenty-three cases, and as the contributing cause in the other two. A primary lesion was found at the portal of entry in twenty-two of the twenty-five postmortems. The three cases in which a primary lesion was not found at the portal of entry all showed chronic tuberculosis of the bronchial lymph nodes, but none of the mesenteric lymph nodes. The primary lesion was found in the lung in twenty cases, and in the intestine in two cases. If we add to the twenty cases the three in which the only chronic lesions were found in the bronchial lymph nodes we have a ratio of twenty-three cases of infection through the lung to two cases of infection through the intestine. The favorite situations were at the apex and near the hilus. The bronchial lymph nodes were found tuberculous in the twenty cases having a primary lesion in the lung, and in three cases in which no primary lesion was found. They were involved alone in sixteen cases, including the three without evident pulmonary lesion. The mesenteric lymph nodes were tuberculous in addition to the bronchial lymph nodes in seven cases having a primary lesion in the lung, and were involved alone in the two cases having a primary lesion in the intestine. Tuberculous ulceration of the intestinal mucous membrane was found in seven cases beside the two in which this lesion was considered primary. In all cases the ulcers were multiple.

Chronic tuberculosis of the lymph nodes was found in every case. The brain was not examined in three cases, and no lesion of the meninges was found in two cases. In nineteen cases a tuberculous meningitis was found, which was the immediate cause of death. In only five cases were animal inoculations made to determine whether the infection was with a human or with a bovine type of bacillus. The bovine type was found in one case, and the human type in four cases. The case in which the bovine type of bacillus was found was one of those having a primary lesion in the intestine and the one known to have been fed with contaminated milk. The four cases in which a human type of bacillus was found included one of the cases in which there was no apparent primary lesion. In four cases only was there a definite history of exposure to tuberculosis obtained.

American Journal of Insanity, Baltimore

January, LXXII, No. 3, pp. 427-589

5 Survey of Defective Delinquents Under Care of Massachusetts State Board of Insanity. A. W. Stearns, Boston.
6 *Sensory Phenomena in Epilepsy. E. M. Auer, Skillman, N. J.
7 *Correlation of Clinical and Serologic Findings in Paresis and Cerebrospinal Syphilis. I. A. Darling, Warren, Pa., and P. B. Newcomb, Osawatomie, Kan.
8 Functions of Psychologist in Hospital for Insane. S. I. Franz, Washington, D.C.
9 Recollections of Psychiatrist. J. M. Keniston.
10 Dangers of Continuous Bath. W. A. White, Washington, D. C.
11 *Treatment of Paresis and Tabes Dorsalis by Salvarsanized Serum, H. A. Cotton, Trenton, N. J.
12 *Focal Lesions of Cortex of Left Angular Gyrus in Two Cases of Late Catatonia. E. E. Southard and M. M. Canavan, Boston.

6. Sensory Phenomena in Epilepsy.—Concerning the association of migraine to epilepsy, Auer says, one must in considering the influence of heredity, the onset during early life, the periodicity of attacks, the occurrence of prodromes, the unilaterality, exhaustion, chilliness and the occurrence

of unilateral paresthesias and transitory aphasia, observed in both conditions, admit a justifiable ground for relationship.

7. **Paresis and Cerebrospinal Syphilis.**—While examining the opinions given at staff meetings at the Warren State Hospital on 697 routine admissions, it was found by Darling and Newcomb that eighty-seven (12.5 per cent.) were considered to be syphilitic diseases. Of these sixty-nine (9.9 per cent.) were, in the opinion of the majority, unquestionable cases of general paralysis and five (0.7 per cent.) were cerebrospinal syphilis. Concerning the remaining thirteen cases (1.8 per cent.) there was a diversity of opinion. By a more careful analysis of these cases it was determined that eight of the sixty-nine paretics had had negative Wassermann reactions on the blood, this being 11.6 per cent. of all those suffering from the disease. Three, or 60 per cent. of the cerebrospinal syphilitics also failed to show a positive reaction on the blood. In all these cases the Wassermann reaction on the spinal fluid was positive.

11. **Treatment of Paresis and Tabes Dorsalis.**—Cotton emphasizes the fact that in the use of salvarsanized serum we have an agent which does cause definite arrest in paresis, which arrest includes improvement in the clinical symptoms, physical signs and a corresponding change in the biologic reactions from positive to negative. To be effective the case must be treated in the early stages, as advanced stages show no favorable reaction to the treatment. The length of time is not always an indication of the severity of the symptoms, but the majority of cases cannot be helped after two or three years have elapsed. Treatment must be persistent and uninterrupted, grading the amount of dose and frequency of treatment to the condition of the patient. Taboparesis should be cautiously treated, usually with small doses and not oftener than every three weeks. The remission caused by the treatment cannot be compared to spontaneous treatment, for the percentage in the former is 35.5 per cent. and in the latter case only 4 per cent. The change in the cell count, globulin content, blood and spinal fluid Wassermann reactions are the direct result of the treatment and not to be compared with the variation found in untreated cases of paresis. The efficacy of the treatment depends not on the method used but on the stage of the disease; hence the necessity for early diagnosis in paresis and prompt treatment as soon as possible.

12. **Focal Lesions of Cortex of Angular Gyrus.**—Southard and Canavan present two cases of chronic lesion of the left angular gyrus which received the clinical diagnosis of dementia praecox. One case showed a cyst of softening and the other a solitary tubercle. Decidedly atypical is the age of onset of the first case, at 41; the second case had its onset at 36. The authors are especially interested in the fact that the isolated lesions in these cases are in the parietal region.

American Journal of Medical Sciences, Philadelphia

February, CLI, No. 2, pp. 157-312

13 *Management of Patients with Chronic Renal Disease. T. C. Janeway, Baltimore.
14 Relation of Prognostic Factors to Treatment in Diabetes Mellitus. N. B. Foster, New York.
15 *Effect of Exercise on Carbohydrate Tolerance in Diabetes. T. B. Barringer, Jr., New York.
16 Some Aspects of Clinical Study of Respiration; Significance of Alveolar Air Analyses. F. W. Peabody, Boston.
17 Historical Sketch of Development of Duodenal Tube. M. Einhorn, New York.
18 *Tonsillar Endamebiasis and Thyroid Disturbances. J. S. Evans, W. S. Middleton, Madison, Wis., and A. J. Smith, Philadelphia.
19 Pathognomonic Alterations of Cerebrospinal Fluid in Syphilis of Nervous System. J. Collins, New York.
20 *Spontaneous Pneumothorax. L. Hamman, Baltimore.
21 Occurrence of Arteritis in Meningitis. J. W. McMeans, Pittsburgh.
22 Roentgen Expert Witness. E. H. Skinner, Kansas City, Mo.
23 Clinical Study of Chronic Diarrhea. D. Roberts, New York.
24 *Metabolism in Case of Myasthenia Gravis. A. Bookman and A. A. Epstein, New York.

13. Also published in *Bulletin of Medical and Chirurgical Faculty of Maryland*, Baltimore, January, viii, No. 7.

15. **Exercise and Carbohydrates in Diabetes.**—The apparatus used by Barringer in the three cases cited consisted of dumb-bells weighing from 10 to 40 pounds each, and steel bars varying between 25 and 80 pounds in weight, with which different series of movements were carried out. The exercises were of a concentrated form, and were given an hour daily, three days in the week, generally in the late afternoon. Each series of movements lasted from thirty to 120 seconds, and six to eight were given at each exercise period, so that the actual working time varied between four and sixteen minutes for the hour. The results were very satisfactory.

18. **Tonsillar Endamebiasis and Thyroid Disturbances.**—Tonsillar lesions of an infective cryptic character were found by the authors in 22.8 per cent.; and nasal together with tonsillar lesions existed in 90 per cent. of 362 goitrous individuals examined from this standpoint. In typically diseased tonsils, out of thirty-four cases examined microscopically, 97 per cent. were found to harbor *Endamoeba gingivalis* (gros) in the tonsillar crypts. Of sixteen individuals of this group who after treatment by means of emetin hydrochlorid were reexamined, thirteen, or 81 per cent., were shown no longer to have endamebas in the cryptal contents. In twenty-three persons to whom emetin was administered a reduction in the bulk of the goiter was appreciable in eighteen; and of seven dysthyroid cases included in this group of those treated, six were benefited in degrees varying from slight amelioration to apparent cure.

20. **Spontaneous Pneumothorax.**—Several interesting cases are cited by Hamman. Case 1.—A young man during a cold has sudden pain in the right side. A few days later, Dec. 2, 1909, examination reveals a complete right pneumothorax. Uneventful recovery in six weeks. Nov. 4, 1910, after lifting a weight, pain in the left side. Examination reveals complete left pneumothorax. Uneventful recovery in four weeks. Recurrence of left pneumothorax on Dec. 24, 1910. In October, 1913, cough, sputum, signs of tuberculous infiltration in both upper lobes; tubercle bacilli in sputum. Case 2.—Healthy young man has sudden pain in left side of chest followed by dyspnea on exertion; examination the following morning, Nov. 30, 1910, reveals complete left pneumothorax; uneventful recovery in four weeks; has remained well since. Case 3.—Healthy man, aged 38 years, has sudden pain on left side, followed by dyspnea on exertion; examination reveals left pneumothorax; uneventful recovery in four weeks; has remained well. Case 4.—Young man, aged 35 years, with relatively inactive chronic pulmonary tuberculosis, suddenly has severe pain in the left side. Examination reveals left pneumothorax. No constitutional symptoms develop and the pneumothorax heals uneventfully in five weeks. Case 5.—A healthy man, aged 29 years, suddenly has severe pain in the right side on the morning of July 29, 1914, followed by a little dyspnea on exertion. Examination Aug. 17, 1914, reveals a right-sided pneumothorax which has almost completely cleared up. Patient has remained well since. These five cases illustrate (1) how insidious may be the onset of pneumothorax; (2) what few symptoms it may occasion; (3) how easily on a casual examination the condition may be overlooked; (4) the perfectly benign course of the affection; (5) the occurrence of an insidious benign type of pneumothorax in perfectly healthy individuals as well as in those with manifest pulmonary disease.

24. **Myasthenia Gravis.**—This case of myasthenia gravis presented as unusual symptoms, bronzing of the skin, pigmentation of the buccal mucous membrane and high blood pressure. The metabolism of calcium, magnesium, phosphorus, sulphur, and nitrogen and the ammonia excretion were studied by Bookman and Epstein with the patient at rest, while taking exercise, during the administration of epinephrin, of thymus gland, and of calcium, and presented no abnormal features. The excretion of creatinin was below normal. There was at times a considerable excretion of creatin. Ovarian and testicular substance were also administered. Neither the glandular preparations nor the calcium appeared to have any influence on the clinical course.

Arizona Medical Journal, Phoenix

January, IV, No. 1, pp. 1-10

25 Physician's Relation to His Patients. W. W. Wilkinson, Phoenix.
26 Some Newer Ideas on Vaccines. W. W. Watkins, Phoenix.

Boston Medical and Surgical Journal

February 3, CLXXIV, No. 5, pp. 151-186

27 Gunshot Wounds of Soft Parts. B. Vincent and R. B. Greenough, Boston.
28 Observations on Six Hundred Heart Cases. M. H. Wentworth, Concord.
29 Are Tiere Different Anatomic Types? J. E. Goldthwait, Boston.
30 Abscess of Tongue; Report of Case. J. Prenn, Boston.
31 Operation for Correction of Deformity Due to Obstetric Paralysis. M. H. Rogers, Boston.
32 Lobar Pneumonia in Infancy and Childhood. J. L. Morse, Boston.

Cleveland Medical Journal

December, 1915, XIV, No. 12, pp. 793-874

33 *Diagnosis of Cerebrospinal Syphilis by Laboratory Means. C. L. Cummer, Cleveland.
34 *Diagnosis of Intracranial Bleeding in New-Born. H. G. Sloan, Cleveland.
35 Typhoid in Cleveland in 1914. T. E. Cox and R. G. Perkins, Cleveland.
36 *Case of Urinary Retention without Other Symptoms Due to Syphilis. T. S. Keyser, Cleveland.
37 City Hospital Cure of Contagious Syphilis; Some Social Aspects. W. C. Gill, Cleveland.
38 Value of Diastolic Blood Measurement in Diagnosis of Circulatory Disturbances. D. O. Bowman, Cleveland.
39 Neurologic Reviews; Case Reported. T. S. Keyser, Cleveland.

33. **Diagnosis of Cerebrospinal Syphilis.**—Syphilis, Cummer shows, may produce marked involvement of the central nervous system without any striking clinical signs for a long period of time. The all-important early diagnosis cannot be made without examination of the spinal fluid. Even when manifest clinical signs are present, it is only the examination of the spinal fluid which can show the exact nature of the morbid process. With patients who are under treatment, the repeated examination of the spinal fluid serves as a guide in treatment and in prognosis.

34. **Intracranial Bleeding in New-Born.**—In case of difficult or prolonged birth, in cases in which there has been a difficult instrumental delivery, or where there is tardy starting of spontaneous respiration, Sloan urges that the babe ought to be carefully watched for the next few days to see if there is any evidence of cerebral bleeding. Early symptoms of cortical irritation are most valuable in localization of the bleeding. Bleeding above the tentorium can be differentiated from that occurring below it. When symptoms of general increase in intracranial pressure become marked a decompression operation ought to be done. The best results are seen when decompression is done while the pulse rate is still slow and before respiration becomes irregular.

36. **Urinary Retention Due to Syphilis.**—Keyser reports the case of a patient, aged 57, complaining of difficulty in urination but showing no clinical signs which would warrant the diagnosis of syphilis. The evident neurologic basis of the retention, the definite history of infection, and the serologic findings in the spinal fluid determined the condition to be one of tabes dorsalis.

Florida Medical Association Journal, Jacksonville

January, II, No. 7, pp. 193-224

40 Pyelitis, Its Symptomatology, Diagnosis and Treatment. H. A. Peyton, Jacksonville.
41 Cooperation of Medical Profession and Press. R. H. McGinnis, Jacksonville.
42 Relation of Physician to Pharmacist from Standpoint of Physician. E. W. Warren, Palatka.
43 Assisting Nature. M. Freeman, Perrine.
44 Malarial Hematuria. J. D. Bennett, Clearwater.
45 Weaning from Morphin. H. M. Smith, Chattahoochee.

Journal-Lancet, Minneapolis

February 1, XXXVI, No. 3, pp. 61-92

46 Value of Lithotrite and Remarks on Removal of Foreign Bodies from Urinary Bladder. O. Owre, Minneapolis.

Journal of Cutaneous Diseases, New York

January, XXXIV, No. 1, pp. 1-54

47 Relation of Internal Secretions to Cutaneous Diseases. O. H. Foerster, Milwaukee.
48 Id. E. L. McEwen, Chicago.
49 Present Status of Dermatology in South America. W. T. Corlett, Cleveland.
50 Should All Precancerous or Cancerous Lesions of Skin be Excised? M. B. Hutchins, Atlanta.
51 Histopathology. W. J. Heimann, New York.

Journal of Medical Research, Boston

January, XXXIII, No. 3, pp. 323-506

52 Effect of Antiplatelet Serum on Blood Platelets and Experimental Production of Purpura Hemorrhagica. R. I. Lee and O. H. Robertson, Boston.
53 *Morphologic Changes in Tissues with Changes in Environment. Gastric Mucous Membrane Implanted into Intestine. G. M. Smith, St. Louis.
54 Lipase Studies; Acid Production in Tissues with Especial Reference to Uranium Nephritis. C. Quinan.
55 *Complement Fixation Reactions of Bordet-Gengou Bacillus. M. P. Olmstead and O. R. Povitzky, New York.
56 Inheritance of Susceptibility to Transplantable Tumor, Carcinoma (J. W. A.) of Japanese Waltzing Mouse. C. C. Little and E. E. Tyzzer, Boston.
57 Old Age in Relation to Cell Overgrowth and Cancer. E. W. Goodpasture and G. B. Wislocki, Baltimore.
58 Accumulation of Anisotropic Fats in Interstitial Cells of Kidney. J. W. McMeans, Pittsburgh.
59 Tissue Reactions in Experimental Hypercholesterinemia. J. W. McMeans, Pittsburgh.
60 Maintenance of Virulence of Bacillus Abortivus Equinus. E. S. Good and W. V. Smith, Lexington, Ky.
61 *Unique Lesion of Heart in Systemic Blastomycosis. T. D. Hurley, New Orleans.
62 Effect of Temperature on Clotting Time (Prothrombin Time) of Oxalated Plasma with Calcium. G. R. Minot, Boston.

53. **Morphologic Changes in Tissues.**—Smith found that gastric mucous membrane removed from the fundus of the stomach and implanted into the small or the large intestine may undergo changes in structure characterized by a disappearance of chief and parietal cells normally found in the fundus. In place of chief and parietal cells a type of cell develops which resembles that normally found in the pyloric region of the stomach. These newly formed cells are of an indifferent character. They do not contain secretory granules but their distal end reacts strongly to stains for mucus. In addition to the changes in the character of epithelium, the glands frequently show a greater irregularity in shape than normal.

55. **Reactions of Bordet-Gengou Bacillus.**—The separation by morphologic and cultural characteristics of the typical Bordet-Gengou bacillus from atypical strains of the Bordet-Gengou bacillus and from the influenza bacillus has been confirmed by Olmstead and Povitzky complement fixation tests. Twelve strains of *B. pertussis* isolated by them from patients with pertussis have given complement fixation reactions similar to each other and similar to the two strains obtained from other laboratories.

61. **Lesion of Heart in Systemic Blastomycosis.**—A laborer, aged 61 years, was troubled by cough which had persisted for three months. A diagnosis of pulmonary tuberculosis was made, though sputum examinations were negative. There was evidence of heart disturbance, but this was a minor feature. The most distressing symptoms were cough and dyspnea, thought to be due to bronchial asthma. Death, which occurred eight months later, was apparently due to the pulmonary condition with a terminal septicemia. The necropsy was performed on Jan. 18, 1915, forty hours postmortem. Blastomycotic lesions were found in the skin of the face, scalp, chest and arm; in the bones of the skull, chest wall, and elbow and wrist joints on the right arm, as well as in both lungs, the spleen and the cerebrum and its meninges. The subcutaneous abscesses of the chest wall seemed to arise from the underlying necrotic ribs. From the lower abscess a sinus continued inward through the fifth intercostal space and was found to communicate directly with the pericardial cavity. The pericardial cavity contained numerous dense fibrous adhesions between the thickened pericardium and the heart, among which was much fibrin and many collections of purulent material. The largest of these was in communication externally with a subcutaneous abscess and internally with a necrotic area in the anterior wall of the left ventricle of the heart.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

January, VIII, No. 1, pp. 1-88

63 *Quantitative Study of Analgesia Produced by Opium Alkaloids, Individually and in Combination with Each Other, in Normal Man. D. I. Macht, N. B. Herman and C. S. Levy, Baltimore.

64 *Elimination of Hexamethylenetetramin. K. G. Falk and K. Sugiura, New York.
65 Comparative Pharmacologic Action of Ethylhydrocuprein (Optochin) and Quinin. M. I. Smith and B. Fantus, Ann Arbor, Mich.
66 *Does Pituitary Gland Contain Epinephrin or Compound Similar To It? W. K. Watanabe and A. C. Crawford, San Francisco.

63. **Analgesia Produced by Opium.**—The principal opium alkaloids in respect to their analgesic power are arranged by the authors in the following order: morphin, papaverin, codein, narcotin, narcein and thebain. It was found that a combination of morphin and narcotin, and also a combination of the total opium alkaloids is much more effective than the quantity of morphin they contain would be if given alone. It was further found that in the case of one of the authors showing an idiosyncrasy for morphin, that alkaloid produced a heightening instead of a lowering of the threshold of pain, which phenomenon, however, disappeared on administering morphin in conjunction with narcotin.

64. **Elimination of Hexamethylenetetramin.**—Although only a limited number of results were obtained by Falk and Sugiura (forty in all), certain consistent relationships appear. The lower the specific gravity of the urine, the larger was the amount of hexamethylenetetramin excreted. The amount of formaldehyd found had no apparent relation to the amounts of hexamethylenetetramin taken or excreted. The hexamethylenetetramin always appeared in the first hour's urine, but in most of the cases which were studied in this way the amount increased and reached a maximum during the second and third hours. It still continued to appear for sometime after this, but practically no more was excreted after twelve to fourteen hours. Taking 1 gm. under described conditions, for normal urines with specific gravities ranging from 1.015 to 1.025, the percentage excreted may be taken to lie between 80 and 40 per cent. With higher specific gravities less would be excreted; with lower, more might be excreted. In a number of pathologic cases involving impairment of kidney function, abnormally small amounts of hexamethylenetetramin were excreted.

66. **Does Pituitary Gland Contain Epinephrin?**—Pituitary extracts, when prepared by certain methods, Watanabe and Crawford state, yield color reactions which would suggest the presence of epinephrin or an epinephrin-like compound, and the physiologic actions of such solutions can be explained by the presence of such a compound, but modified by admixed substances. Epinephrin has not yet been isolated from these glands, and this may be due to the small amounts present, which would not be precipitated by the method now used for obtaining epinephrin.

Military Surgeon, Washington, D. C.

January, XXXVIII, No. 1, pp. 1-122

67 Bacterial Flora of Infected Gunshot Wounds. L. A. LaGarde, U. S. Army.
68 Medicomilitary Notes from Belgian War Zone. J. D. Spelman, Ohio N. G.
69 Practical Points in Prevention of Asiatic Cholera. A. J. McLaughlin, Washington, D. C.
70 Has Our Propaganda for Venereal Prophylaxis Failed? R. C. Holcombe, U. S. Navy.
71 Objects of First Aid Conference. J. C. Bloodgood, Baltimore.
72 Submarine; Its Casualties in Peace and War. W. H. Halsey, San Francisco.
73 Statistical Report of Five Hundred and Seventy Cases Treated in American Red Cross Hospital at Kiev, Russia. D. F. Winn, Kiev, Russia.
74 Correspondence Course for Officers of Medical Reserve Corps. M. A. W. Shockley, Fort Leavenworth, Kan.

Modern Hospital, St. Louis

January, VI, No. 1, pp. 1-76

75 Educational Function of Hospital. W. Smith, Baltimore.
76 Treatment of Hospital Sewage in Individual Plant. P. E. Mebus, Philadelphia.
77 Motor Bus Transportation of Sick to Country. F. Brush, New York.
78 Dangers of Continuous Bath. W. A. White, Washington, D. C.
79 Hospital Owned and Controlled by Medical Staff. E. Walker, Evansville, Ind.
80 Hospital of High-Grade Construction Built at Low Cost. C. H. McKenna and V. A. Matteson, Chicago.
81 Comparative Service in Community Hospital. N. B. Jordan, Aurora, Ill.
82 Liability Insurance for Protection of Hospitals. H. T. Weston, Hartford, Conn.
83 An Early Greek Sanatorium and Dispensary. J. M. Ball, St. Louis.
84 Technic of Practical Routine Fire Drill in Hospitals. B. Hollings, Boston.
85 Nitrous Oxid Analgesia in Obstetrics. E. I. McKesson, Toledo.
86 Possibilities of Future Development in Service Rendered by Hospital to Community. A. R. Warner, Cleveland.
87 Illumination of Modern Hospital. D. Crownfield, Boston.
88 Heating and Ventilating British Hospitals. S. F. Walker, Bath, England.

South Carolina Medical Association Journal, Greenville

January, XII, No. 1, pp. 1-29

89 Internal Medicine as Specialty. J. H. Gibbes, Columbia.
90 Gunshot Wounds of Abdomen; Report of Six Cases. S. R. Harmon, Columbia.
91 Report of Forty-Six Cases of Intubation. E. W. Carpenter, Greenville.
92 Importance of Differential Diagnosis of Abdominal and Lumbar Pains in Women. C. W. Barron, Columbia.
93 County Hospital for Marlboro. C. R. May, Bennettsville.

Southern Medical Journal, Birmingham, Ala.

January, IX, No. 1, pp. 1-92

94 Physician of Today—His Obligation. O. Dowling, Shreveport, La.
95 *Sanitary Preparedness. R. Blue, Washington, D. C.
96 National Health Program. A. T. McCormack, Bowling Green, Ky.
97 *Pellagra Commission of Dallas Medical and Surgical Society. Report of Committee on Prevention and Treatment. H. L. Moore, Dallas, Tex.
98 *Pellagra Commission of Dallas Medical and Surgical Society. Report of Committee State-at-Large. W. L. Allison, Fort Worth, Tex.
99 *Pellagra in Texas. K. H. Beall, Fort Worth, Tex.
100 *Drugs in Pellagra. W. T. Wilson, Navasota, Tex.
101 *Etiology of Pellagra with Reference to Amebic Invasion. W. A. Dearman, Long Beach, Miss.
102 *Blood in Pellagra. B. Young, San Antonio, Tex.
103 Report of Pellagra Clinic Held in Dallas, Texas. J. R. Lehmann, Dallas, Tex.
104 Railway Surgeons. T. H. Hancock, Atlanta, Ga.
105 Opportunities and Responsibilities as Specialists. J. B. Greene, Asheville, N. C.

95. Abstracted in THE JOURNAL, Dec. 11, 1915, p. 2118.

97, 98, 99, 100 and 102.—Abstracted in THE JOURNAL, Dec. 4, 1915, p. 2029.

101. Abstracted in THE JOURNAL, Dec. 4, 1915, p. 2030.

Southwest Journal of Medicine and Surgery, El Reno, Okla.

January, XXIV, No. 1, pp. 1-32

106 Treatment of Gonorrheal Ophthalmia. H. Gifford, Omaha.
107 Pain: Its Surgical Significance. W. D. McVicker, Wichita, Kan.
108 Splenic Anemia; Course and Diagnosis. W. H. Deaderick, Hot Springs.

Surgery, Gynecology and Obstetrics, Chicago

February, XXII, No. 2, pp. 127-250

109 *Physiologic Treatment of Bullet and Shell Wounds of Peripheral Nerve-Trunks. H. H. M. Lyle, New York.
110 Operative Treatment of Gunshot Injuries to Peripheral Nerves. H. E. Schiffbauer, Königsberg, Germany.
111 Medical Aspects of War. R. I. Lee, Boston.
112 Peculiar Inflammations of Iliac Fossa, Following Simple Epididymitis. P. S. Campiche, San Francisco.
113 *Operative Treatment of Varicose Veins and Ulcers, Based on Classification of These Lesions. J. Homans, Boston.
114 Quiet Hip Disease (Perthes' Disease). H. L. Taylor and W. Frieder, New York.
115 Primary Benign Growths of Stomach; Report of Cases. S. Basch, New York.
116 Cause of Carcinoma. A. E. Rockey, Portland, Ore.
117 Origin of Retroperitoneal Cystic Tumors. M. N. Hadley, Indianapolis.
118 *Gunshot Wounds of Abdominal Cavity; Report of Cases. G. L. Hays, Pittsburgh.
119 Physiologic Method of Tendon Transplantation. L. Mayer, New York.
120 Fracture of Vertebrae without Cord Symptoms; Report of Cases. P. W. Roberts, New York.
121 Renal Dystopia; Report of Two Cases. T. N. Hepburn, Hartford, Conn.
122 Enormous Abdominal Cyst, Probably Due to Retained Testis. J. H. Outland and L. Clendening, Kansas City, Mo.
123 Carbohydrate Tolerance in Hyperthyroidism. J. C. O'Day, Portland, Ore.
124 Multiple Benign and Malignant Adenoma Limited to Sigmoid Flexure of Colon; Report of Cases. H. W. Soper, St. Louis, Mo.
125 Correction of Nasal Deformities by Mechanical Replacement and by Transplantation of Bone. W. W. Carter, New York.
126 *Blood Pressure in Fibromyomata Uteri. H. C. Taylor and W. C. White, New York.

127 Three Hundred and Twenty-Four Consecutive Cases of Appendicitis, Operated on without a Death. R. B. Williams, Norfolk, Va.
128 Method of Demonstrating Bacteria in Urine by Means of Centrifuge. E. G. Crabtree, Boston.
129 Artificial Leverage in Reduction of Fracture. H. Gifford, Syracuse, N. Y.
130 *Surgical Treatment of Acute Gonorrheal Tube Infections with Quarantine Pack. R. C. Coffey, Portland, Ore.
131 Immediate Perineorrhaphy. A. B. Spalding, San Francisco.
132 Retrodisplacements of Uterus. J. C. Neel, San Francisco.
133 Duodenal Feeding. C. R. Jones, Pittsburgh.
134 Technic of Pyelography. S. R. Woodruff, Bayonne, N. J.
135 Technic of Nitrous Oxid Administration in Obstetrics. A. K. Paine, Boston.
136 Improvement in Screw-Holding Forceps for Bone Work. J. H. Shephard, Cœur d'Alene, Ida.
137 Case of Radical Amputation of Breast Under Local Anesthesia. H. P. Cole, Mobile, Ala.

109. Bullet Wounds of Peripheral Nerve-Trunks.—Lyle says that primary nerve suture is rarely indicated in war time, but it is imperative whether the nerve is divided or not, that the paralyzed muscles be relaxed and protected from strain by a suitable apparatus. Under no circumstances must this be deferred to the so-called after-treatment. The postural prophylaxis begins with the reception of the wound and continues after the operation until voluntary motion is restored. A strict adherence to this vital orthopedic principle aids in the diagnosis, hastens recovery, prevents many distressing deformities, and will materially diminish the number of useless limbs.

113. Surgery of Varicose Veins and Ulcers.—Homans summarizes his paper as follows: Varicosity of the veins of the legs is confined for anatomic and physiologic reasons to the superficial and perforating vessels. Trendelenburg's tests distinguish between pure surface varix and surface varix complicated by varicosity of the perforating veins, a distinction important for purposes of treatment. Surface varix is curable by relatively simple surgical procedures, preferably excision of the great saphenous vein from groin to mid-calf. Surface varix complicated by varicosity of the perforating veins requires for its cure not only eradication of the great saphenous vein, but a thorough exploration of the lower leg in order to ligate varicose perforating veins. Varix following phlebitis is not uncommon, presents a characteristic appearance, is prone to be complicated by varicosity of the perforating veins, and is usually accompanied by obstinate ulceration soon after its establishment. It is a general rule, if not a law, that the more prominent and tortuous the surface veins, the simpler the cure; the less noticeable the surface veins the more malignant and resistant their attendant ulcers and the more radical the operative procedure required for cure. Varicose ulcers, if of long standing, and especially if they are surrounded by an area of thick scar tissue, are best treated by free excision and immediate skin graft in connection with the radical removal of the veins to which they are tributary.

118. Gunshot Wounds of Abdominal Cavity.—The general recovery percentage for the eighteen cases reported by Hays is 61.11. In these eighteen cases only thirteen had perforations of the hollow viscera with seven recoveries, giving a recovery percentage of 53.84. Five patients did not have any injury to any part of the intestines. Of this number four recovered. The perforations occurred in all parts of the intestinal tract, from the stomach to the sigmoid inclusive, except the duodenum. The greater number of perforations in any one case was sixteen. The time of operation after injury in those patients who recovered was from two to twelve hours. In those cases in which death occurred, the time of operation after injury was from seven to fifty-seven hours. The average time of operating after injury in those who recovered was about five or six hours; for those who died the average time was about seventeen hours. In these cases of gunshot wounds of the abdomen Hays has always noted that the concavity existing normally at the intercostal angle has disappeared and is replaced by a fulness or convexity when acute dilatation of the stomach develops. Two or three washings of the stomach may entirely relieve the complication, but treatment must be instituted early to get this result.

126. Blood Pressure in Fibromyomata Uteri.—Of 148 cases of fibromyomas of the uterus in which blood pressures had been taken, fifty-five (37 per cent.) had a brachial blood pressure of 120 mm. of mercury or under, with an average age of 34.9 years, and sixty-two (41.8 per cent.) had pressures from 121 to 140 inclusive, with an average age of 35.8 years. This made a total of 117 cases (78.8 per cent.) with a blood pressure of 140 or under, and an average age of 35.9 years. The thirty-one over 140 mm. blood pressure had an average age of 43 years. Twenty-two patients were reexamined later. Most of the twenty-two had large fibroids, and at operation these tumors were removed, while in most cases either a supravaginal or a complete hysterectomy was performed. On return, the patients had general physical and pelvic examinations, urine analyses, and brachial blood pressures. Three patients had unchanged blood pressure; eleven had an increase from 5 to 65 mm., and eight had a decrease from 5 to 40 mm. of mercury.

130. Quarantine Pack in Gonorrheal Tube Infections.—The quarantine pack is placed by Coffey as follows: On opening the abdomen the fluid and spilled pus is sponged out with dry gauze. The intestines are packed entirely out of the pelvis. If the tubes are firmly sealed they are removed by excision down to the uterine mucosa, with any infected portion of the ovary, leaving the healthy portion to be healed as a result of the drainage. Gauze wicks the size of a finger (not folded like the folds of a fan) are laid straight side by side entirely across the abdomen, putting sometimes twenty or thirty of these wicks, reaching to the bottom of the pelvis and gradually extending up the side of the pelvis, making a solid wall of gauze. After these wicks have been placed carefully a sheet of guttapercha tissue of four or six layers is placed above the gauze, care being taken that the tissue goes entirely across the lower part of the cavity, absolutely shutting off all possibility of contact of the intestines with the gauze drainage. If the tubes are not sealed, the quarantine is placed without removing them. The open ends of the tubes are left in contact with the gauze. The wicks and the rubber tissue in certain cases are then turned toward the patient's face, exposing the uterus and bladder, and another folded sheet of six or eight layers of guttapercha tissue is carefully inserted between the gauze and the fundus of the uterus, this practically surrounding the gauze and making a completely protected pad. This second guttapercha sheet should not prevent the open tubes from coming in contact with the gauze. In six days after the pack is placed, the wicks are withdrawn, leaving the rubber tissue. On the fourteenth day the rubber tissue is removed, and according to the case Coffey either inserts a small rubber tube which is tapered at the point, or leaves drainage out entirely. It usually takes such wounds about five weeks to heal. For four weeks he keeps the patient in bed, preferably on the back most of the time. During the past three years he has had practically no hernia following such operations.

Tennessee State Medical Association Journal, Nashville

January, VIII, No. 9, pp. 383-424

138 Comparative Study of Diagnostic Tests for Syphilis. W. Krauss, Memphis.
139 *Indications for Operative Treatment of Fractures. B. Malone, Memphis.
140 *Bad Results of Colles' and Pott's Fractures. D. Eve, Jr., Nashville.
141 *Technic and Results in Eight Gasserian Ganglion Operations. E. J. Johnson, Memphis.
142 Malignancy-Cancer. J. A. Graham, Chicago.
143 Early Diagnosis of Surgical Diseases. C. P. Fox, Greeneville.
144 Removal of Superficial and Penetrating Bodies from Eyeball and Treatment. J. T. Herron, Jackson.

139, 140 and 141. Abstracted in THE JOURNAL, May 1, 1915, p. 1523.

Washington Medical Annals

January, XV, No. 1, pp. 1-80

145 Scarlet Fever. F. Leech, Washington, D. C.
146 Army Medical Museum. D. S. Lamb, Washington, D. C.
147 Foreign Bodies in Rectum. L. Eliot, Washington, D. C.
148 Roentgenologist as Consultant; His Rights, Privileges and His Responsibilities. C. A. Pfender, Washington, D. C.

West Virginia Medical Journal, Huntington

February, X, No. 8, pp. 255-290

149 Use of Tuberculin in Diagnosis of Pulmonary Tuberculosis. E. E. Clovis, Alta.
150 Treatment of Nocturnal Enuresis. M. Mendeloff, Charleston.
151 Great Variety of Symptoms and Frequent Occurence of Syphilis of Central Nervous System. C. C. Wholey, Pittsburgh.
152 Physician in Court. E. M. Showalter, Fairmont.
153 Ureteral Kinks. T. E. Vass, Bluefield.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

December, 1915, IX, No. 4, pp. 435-568

1 *Nuclear Variations of Neutrophil Leukocytes (Arneth Counts) in Malaria and Yellow Fever. J. W. S. Macfie.
2 Babesiasis and Trypanosomiasis at Accra, Gold Coast, West Africa. J. W. S. Macfie.
3 Differential Counts and Neutrophil Blood Picture of Natives—Adults and Children of New Guinea. A. Breinl and H. Priestley.
4 Case of Dysentery in Monkey, in which Amebae and Spirochetes were Found. J. W. S. Macfie.
5 General Distribution of Glossina Palpalis, Rob-Desv., in District of Lomami, Belgian Congo. J. Schwetz.
6 Trypanosome of Black Rat (Epimys Rattus). J. W. S. Macfie.
7 Artificial Cultivation of Hansen's Bacillus. H. Bayon.
8 Studies in Blackwater Fever. Duration of Hemoglobinuria. J. W. W. Stephens.
9 Experimental Researches on Induced Herpetomoniasis in Birds. H. B. Fantham and A. Porter.
10 Association of Warthog and Nkufu Tick (Ornithodorus Moubata). L. Lloyd.
11 Anaplasma-Like Bodies in Blood of Vertebrates. A. Porter.

1. Variations of Neutrophil Leukocytes in Malaria and Yellow Fever.—Macfie states that a slight shift to the left of the Arneth count is found in the blood of healthy Europeans in West Africa. There is a marked shift to the left in malarial fever which is evident not only during the attack, but also before its onset, and for a considerable time after convalescence is established. Macfie thinks that it is probable that the abortive inoculations with malaria parasites by infected mosquitoes, which are a part of the daily life in many parts of West Africa, are sufficient to account for this shift in apparently healthy Europeans, without postulating a specific action of the climate on the white races living in the tropics. In yellow fever there is a great shift to the left of the Arneth count. It is suggested that the changes observed in the Arneth counts are due to toxemia causing a destruction of the circulating polymorphonuclear leukocytes, and a flooding of the blood with young cells liberated by the activity of the leukopoietic system.

British Journal of Tuberculosis, London

January, X, No. 1, pp. 1-50

12 Crippled Tuberculous Children. H. J. Gauvain.
13 Successful Destruction of Tubercle Bacilli in Milk by Electricity. J. M. Beattie and F. C. Lewis.
14 Control of Secondary Infections in Tuberculosis. R. P. White.
15 Relative Immunity in Tuberculosis and Use of Tuberculin. E. L. Trudeau.

British Medical Journal, London

January 15, I, No. 2872, pp. 77-116

16 *Bacteria of Gangrenous Wounds. H. R. Dean and T. B. Mouat.
17 Treatment of Acute Toxemia Secondary to Gas Gangrene by Intravenous Injection of Solution of Hypochlorous Acid. J. Fraser and H. J. Bates.
18 Clothing Against Cold. W. T. Grenfell.
19 Chloramin in Treatment of Wounds of Mouth and Jaws. A. R. Fisher.
20 Combined Preventive Inoculation Against Typhoid and Paratyphoid and Bacillary Dysentary. J. P. Johnson and A. J. Milne.

16. Bacteria of Gangrenous Wounds.—The eighteen cases investigated by Dean and Mouat were those in which there had been gross destruction of tissue, with subsequent necrosis and gangrene. The discharge from the wound was, in the majority of cases, excessively offensive. Streptococci were isolated from nearly every case. No attempt was made to define accurately the variety of streptococcus, but nearly all those isolated appeared to belong to one type, which in films appeared as a small diplococcus, or more rarely as a chain of four or six members. Staphylococci were isolated less frequently than might have been anticipated. When present, they were not as a rule numerous. *B. coli* was only isolated from four cases. The only other aerobic organism of any interest was a proteus bacillus from Case 5. Only three varieties of anaerobic bacteria were isolated, the *B. aerogenes capsulatus, B. edematis maligni* and the *B. tetani*. Bacillus of malignant edema was isolated in fifteen of the eighteen cases. All were cases in which considerable laceration and necrosis of tissue had occurred, and all were characterized by an offensive discharge. *B. aerogenes capsulatus* was isolated from thirteen of the eighteen cases. In all but one the bacillus of malignant edema was also found. It was present in three of the four cases, in which the presence of tetanus bacilli was demonstrated. It was present in three of the four cases in which signs of tetanus developed in the patient. It was present in three of the four cases in which the gas was present in the tissues. Of the thirteen cases only two were fatal, and in one of these death was due to tetanus.

Glasgow Medical Journal

January, LXXXV, No. 1, pp. 1-80

21 Insects in Relation to Disease. R. M. Buchanan.
22 Cases of Hysterical Stomachs. A. E. Maylard.
23 Urine Testing with Esbach's Albuminometer. H. E. Jones.

Journal of Laryngology, Rhinology and Otology, London

October, 1915, XXX, No. 10, pp. 385-424

24 Simple Apparatus for Applying Ionic Medication to Nasal Cavities. A. J. Hutchison.
25 Etiology of Otosclerosis. W. S. Bryant.

November, No. 11, pp. 425-456

26 Granuloma of Vocal Card. S. Thomson.
27 Operative Treatment of Nasopharyngeal Fibroma. T. Guthrie.

December, No. 12, pp. 457-528

28 Reconstruction Model of Right Middle and Inner Ear. J. S. Fraser and J. K. M. Dickie.
29 Vincent's Angina. W. Wingrave.
30 Tonsillectomy by Blunt Dissection Under Local Anesthesia. J. B. Horgan.

Lancet, London

January 15, I, No. 4820, pp. 117-172

31 Medicine, Magic and Religion. W. H. R. Rivers.
32 *Factors Responsible for Gaseous Gangrene. K. Taylor.
33 *Two Cases of Heart Block. C. Lundsgaard.
34 *Bactericidal Action of Normal and Infected Serum on Different Microbes. K. Sakagami.
35 Case of Acute Rheumatism Occurring in Tropics. G. W. Scott.
36 *Radical Treatment of Rheumatoid Arthritis. M. J. Rowlands.
37 Hagedorn's Operation for Double Hare-Lip. T. Bates.
38 Respiratory Form of Paratyphoid. E. Stolkind.

32. Factors Responsible for Gaseous Gangrene.—Some experimental work with the *B. aerogenes capsulatus* of Welch is published by Taylor in the hope that it may be of value in the treatment of gaseous gangrene as it occurs among the wounded. The factors whose importance is discussed by Taylor are: (1) the endotoxin contained in the bacillus; (2) the exotoxin elaborated by the bacillus; (3) the toxin elaborated from the tissue undergoing, or which has undergone, degenerative changes due to the action of the bacillus, which substance, for lack of a better term, has been designated "tissue toxin"; and (4) the gas produced by the growing bacilli. Taylor concludes from these experiments and from the study of the pathology of the clinical cases that the following facts may be stated: 1. The gas produced by *B. aerogenes capsulatus* is of little or no importance as a toxic factor. 2. The mechanical action of the pressure produced is usually, if not always, the most important part of the infection. To it may be charged the development of highly pathogenic possibilities in a usually rather innocent infection. It brings about (*a*) the death of the tissues from the resulting anemia produced by a pressure much higher than that of the circulating blood; (*b*) the actual mechanical fragmentation of the tissues, especially muscle; and (*c*) the mechanical scattering of the infection. 3. One of the chief problems in the treatment of the infection is that of establishing drainage for the escape of the gas before the pressure has resulted in the death of the tissue.

33. Cases of Heart Block.—In one patient, a man, 59 years of age, suffering from aneurysm of the aorta, a transitory

attack of irregular pulse was observed, appearing at one time to be an intermittent heart block, at another time an arrhythmia perpetua. In a second patient, a man, 33 years of age, suffering from rheumatic fever, an intermittent heart block was observed, which disappeared the same day as the joint symptoms ceased, and the temperature fell to normal.

34. **Bactericidal Action of Serum on Microbes.**—Sakagami states that the following microbes grow in normal serum: *Staphylococcus pyogenes, Pneumococcus, Pseudotuberculosis, Streptococcus pyogenes* and *M. catarrhalis.* Normal serum has a small bactericidal action on the staphylococcus during the first hour of exposure, but after many hours its power decreases. Serum heated to 60 C. has no power. Normal serum has no bactericidal power on the streptococcus. Serum of tuberculous patients has smaller bactericidal power than normal serum on the staphylococcus and streptococcus. Serum of those suffering from staphylococcal infections has a little stronger power than that of tuberculous patients. The serum of those suffering from tuberculosis and staphylococcal infections at the same time has more power than the serum of those suffering from tuberculosis only. The bactericidal action of Sakagami's own serum after he had been inoculated with cholera and typhoid mixed vaccine was noticeable on both these bacteria, but otherwise was unchanged.

36. **Radical Treatment of Rheumatoid Arthritis.**—The cardinal point of the treatment, Rowlands says, is disinfection of the original focus, but it is only in the early cases that removal of the source of infection will at once cure the condition. In the cases of longer standing the toxemia itself has also to be treated and for this purpose vaccine therapy has proved of great assistance. Ontogenic vaccines should always be prepared, the use of stock cultures being of little avail. The pathogenic organism can sometimes be isolated only with considerable difficulty; in such cases it is often possible to discover it in the urine, and this should always be examined if the organisms are not readily obtained elsewhere. The dosage is a matter that greatly depends on the type of case as well as on individual features in the patient, such as age; in old people one has to be more careful to avoid unpleasant reactions. In fairly acute cases Rowlands begins with a dose of five millions if the organism is a streptococcus, pneumococcus, or a diphtheroid bacillus, the dose being increased according to the reaction. With the bacillus coli he begins with ten millions in acute cases, and in the chronic cases, on the other hand, he begins with five times these doses.

He always aims at bringing about a slight exacerbation of the joint symptoms, such as swelling, heat, and pain. If the patient is kept at rest this soon subsides, as a rule within a few days, but should there be much pain a local application of ice gives relief; when this subsidence has occurred the patient usually reports marked improvement. The next dose following a rather acute reaction should not be increased and there should be no great reaction. Following this the dose may now be increased until one has reached the following numbers; bacillus coli, and paratyphoid, two hundred millions; pneumococcus, streptococcus, pyocyaneus and diphtheroid bacilli, fifty millions. There should be an interval of from seven to ten days between the injections and when there is marked improvement this may be increased to fourteen or twenty-one days; the treatment should be continued for at least a year, and if possible the injection should be given in the evenings. The usual forms of treatment should be administered simultaneously with the vaccine therapy, including attention to the general condition, removal to a bracing climate if possible, massage, baths, tonics and removal of sources of worry.

Paris Médical

January 8, VI, No. 2, pp. 41-56

39 Inability to Put Out the Tongue in Typhus. (Le "signe de la langue" dans le typhus exanthématique.) P. Remlinger.

40 Bridge and Reenforced Plaster Casts for the Wounded. (Les appareils en plâtre armé dans la chirurgie de guerre.) M. Deguy.

41 Treatment of Trismus by Continuous Traction on Lower Jaw. (Traitement du trismus par la traction continue du maxillaire inférieur.) H. Somen.

Presse Médicale, Paris

January 6, XXIV, No. 1, pp. 1-8

42 Nervous Affections Entailed by Wounds in War and the Question of Pensions. (Les maladies de guerre du système nerveux et les conseils de réforme.) Grasset.

43 Gas Gangrene and Gangrenous Infections in the Wounded. (Gangrènes gazeuses et infections gangreneuses.) J. Gatellier.

44 Primary and Secondary Amputations for the Wounded. (Les moignons des amputations faites à l'avant.) L. Desgouttes and E. Perrin.

45 Decapitation of the Astragalus to Correct Talipes Equinus Consecutive to War Wounds. (Traitement de l'équinisme.) D. de Fortunet.

Revue Médicale de la Suisse Romande, Geneva

December, 1915, XXXV, No. 12, pp. 913-1032

46 *Lessons from Observation of Belligerents' Military Medical Service. (Exposé des enseignements tirés de la guerre mondiale et appliqués au service de santé de notre armée.) Hauser.

47 Otogenous Septicemia; Five Cases. (A propos de quelques cas de septico-pyémie otogène.) G. Frey.

48 *Retrogression of Goiter under Influence of Continuous Disinfection of the Intestines; Twelve New Cases. Messerli.

49 Angiokeratoma and Frostbite. (Angiokératôme et engelures.) C. Du Bois.

50 Technic and Advantages of Gwathmey's Method for General Anesthesia by Way of the Rectum. (L'anesthésie générale par le rectum, par la méthode huile-éther-paraldéhyde.) C. G. Cumston.

46. **Lessons from the War.**—Practically this same article was reviewed in these columns recently, p. 153.

48. **Retrogression of Goiter under Continuous Mild Purging and Disinfection of the Intestines.**—This is Messerli's fourth publication on this subject. The results of the treatment specified seem to be as striking as in his three previous series. (Mentioned in THE JOURNAL, May 8, 1915, p. 1618.) The men were all recruits and several of the cases are illustrated "before and after." In the first case the circumference of the neck was reduced from 45.5 to 38.5 cm. under twenty-nine days of treatment. Parenchymatous goiter is extremely common at Basel where these measurements were made, and Messerli noticed that his own thyroid increased in size during his stay there, but it subsided to its normal outlines after he had taken 2 gm. of salol a day for two weeks. He never ventured to apply this treatment to much degenerated goiters, but with simple follicular enlargement and parenchymatous goiter some benefit was apparent in every instance. He thinks that benefit from mild continuous purgation and disinfection sustains the theory of parasites in the drinking water as the cause of goiter.

Archiv für Kinderheilkunde, Stuttgart

Nov. 2, 1915, LXV, Nos. 1-2, pp. 1-160. Last indexed Nov. 13, p. 1762

51 Twenty-Fifth Anniversary of Berlin Children's Hospital. (Zum 25. Jahrestage des Bestandes des Kaiser- und Kaiserin-Friedrich-Kinderkrankenhauses in Berlin.) A. Baginsky.

52 *Potassium Iodid in Acute Disease of the Respiratory and Cardiovascular Apparatus. (Jodkalium in der Behandlung der acuten entzündlichen Krankheitsformen des Respirations- und Circulationsapparates.) A. Baginsky.

53 Strophanthin for Failing Compensation. (Strophanthin bei Compensationsstörungen des Herzens.) A. Baginsky.

54 Poisoning from Canned Vegetable. (Vergiftung mit Bacillus enteridis bei 3 Kindern.) A. Baginsky.

55 Blistering and Peeling of the Skin—Bullous Keratolysis; Five Cases. (Zer Kenntnis der Epidermolysis bullosa.) A. Baginsky.

56 *Inherited Syphilis and the Wassermann Reaction. (Hereditäre Lues und Wassermannsche Reaction. Untersuchungen an Müttern und Kindern.) E. Steinert and E. Flusser.

57 *The Injurious Influence of High Arched Palate in Children and Means to Remedy It. (Der hohe Gaumen.) R. Landsberger.

52. **Potassium Iodid in Pneumonia, Endocarditis, etc.**—Baginsky deplores that so little attention has been paid to his statements in regard to the therapeutic action of potassium iodid in treatment of acute inflammatory processes in the organs of respiration and circulation in children. His statements are based on both theoretical premises and wide practical experience. It is not a specific, but it proves a powerful aid for the child's organism, contending with severe toxic influences. The symptoms calling for it are those from insufficiency of the respiratory and cardiovascular apparatus, whether the one or the other or both are involved in the disease process. The iodid seems to act directly on the vessels and tissues of the pleura, pericardium and other serous membranes, facilitating the processes of diffusion and hence the secreting functions. Six typical cases are related in detail. One girl of 12 had acute pleurisy with effusion and

the improvement under the potassium iodid was marked, the dyspnea subsided, diuresis was promoted, the effusion was mostly absorbed and the heart relieved. It was kept up for a week. In some of the other cases the force of acute pericarditis was manifestly broken up by the iodid given every three hours in a 2 or 4 per cent. solution. The dosage ranges from 1 to 3 gm. a day. It is especially effectual in endocarditis, pericarditis and polyserositis consecutive to acute articular rheumatism.

56. **Inherited Syphilis and Wassermann Reaction.**—This communication from the clinic for children's diseases at Prague fills sixty-seven pages, tabulating the responses to the Wassermann test applied to 2,268 mothers and 2,533 of their children since May, 1912. Additional observations from the three preceding years are also compared with this material. Among all the children, 5.7 per cent. showed signs of syphilis either clinically or with a positive Wassermann reaction, and the syphilitic children invariably had syphilitic mothers. No evidence was found to sustain Rabinowitsch's statement that all the children of a syphilitic mother are infected with syphilis. At any stage of syphilis women are liable to bear children healthy both clinically and serologically. The experiences related demonstrate that mothers with inherited syphilis can bear syphilitic children. In children with inherited syphilis the Wassermann reaction may precede the appearance of symptoms. The Wassermann reaction is also liable to long resist specific treatment, but the latter must not be regarded as successful until the response to the Wassermann test veers to negative. Infants may present a positive Wassermann with no other signs of syphilis and this may occur when the syphilitic mother exhibits a negative Wassermann. The Wassermann may be negative in infants with signs of syphilis; 80 per cent. of the infants in this group have mothers with negative Wassermann notwithstanding certain syphilis. Some women free from any history of syphilis presented a positive Wassermann reaction during the puerperium as also certain infants in the course of acute infections, but the reaction soon disappeared in these cases.

57. **High Arching Palate.**—Landsberger comments on the disturbances almost inevitable when the palate runs up abnormally high. The nasal passages are interfered with by it and mouth breathing is inevitable. It also entails a tendency to a vacuum in the nasopharynx which acts injuriously on the ear and on the local circulation. The space inside this part of the skull is also encroached on by the high palate. The disturbances from the latter are often ascribed to the adenoids frequently found with it. Another serious trouble from it is the resulting abnormal development of the teeth. The germinal buds do not develop centrifugally, as in normal conditions, but straight downward. The condition can be remedied by straightening the roof of the mouth, forcing its sides apart and thus bringing the concave palate down to be more nearly flat. He gives illustrations of a spring and screw apparatus for the purpose. It is worn between the teeth, forcing the rows apart. It does not interfere with speaking or eating, and an actor wore it without interfering with his professional work. The benefit in children was almost miraculous in some cases. Deafness subsided, as also asthma and the headaches which had tormented the children for years. Abnormal salivation was also arrested, and a tendency to coryza, tonsillitis and bronchitis, while the general growth was promoted. All these changes are readily explained by the differences seen in the roentgenograms taken before and after wearing the brace.

Archiv für klinische Chirurgie, Berlin

CVII, 1915, No. 2, pp. 195-378. Last indexed Oct. 2, p. 1221

58 *Surgery of the Large Intestine. (Kasuistisches und Technisches aus der Dickdarmchirurgie.) J. Schoemaker (The Hague).

59 *Ultimate Outcome of Fifty-Four Operative Cases of Hypernephroma. (Das Schicksal der wegen Grawitz-Tumor Operierten, nebst kasuistischen Beiträgen aus den Hamburger Krankenhäusern.) R. Paschen.

60 *Gastroptosis. (Zur Gastroptosefrage, speziell unter radiologischem Gesichtspunkt.) A. Troell (Stockholm).

61 Blue Sclerotics plus Brittle Bones; Three Cases. (Ueber Blaufärbung der Sklera und abnorme Knochenbrüchigkeit.) W. Hofmann.

62 *Objective Symptoms of Static Insufficiency of Vertebrae. A. Schanz.

63 *The Dangers of Lumbar Puncture. (Die Gefahren der Lumbalpunktion.) O. Schönbeck.

64 Pectineal Crural Hernia. (Zur Frage der Hernia pectinea.) F. Kempf; (id.). O. Harzbecker.

58. **Surgery of the Large Intestine.**—This issue of Langenbeck's *Archiv* is notable in that it contains no reference to war surgery. Schoemaker describes three cases of ileus in patients over 75, but no obstruction was discovered at the laparotomy to explain it. Part of the colon was found extremely distended by gas and fluid feces. The ileus was evidently of dynamic nature, not of mechanical origin, and he compares these cases with analogous experiences that have been published by others. He also reports two cases in which an appendix epiploica had developed a cavity in the center, lined with a continuation of the intestinal mucosa, thus forming a diverticulum. The symptoms were those of appendicitis, only they were on the left side. The operation revealed perforation of this diverticulum and consecutive peritonitis.

59. **Fate of Hypernephroma Patients.**—Paschen tabulates the details of 268 operative cases of tumors developing from aberrant suprarenal tissue, which he has found on record. A permanent cure for more than three years is known in only 17.71 per cent.; 28.73 per cent. succumbed to recurrence or metastases, and an additional 8.58 per cent. to intercurrent disease. The fate is not known of 8.21 per cent. In 54 operative cases in Paschen's service, 35.19 per cent. are free from recurrence after an interval of over three years. Every decade of life from 15 to over 70 is represented in his lists, but the largest number of the patients (81) were between 50 and 60; 74 between 40 and 50, and 3 between 70 and 80. One case was in a child. There were 83 women to 186 men in the 269 case reports in which the sex was mentioned.

60. **Gastroptosis.**—Troell's article is profusely illustrated. His study of the subject failed to show that any change in the position and movability of the stomach entails in itself alone any symptoms or that a certain degree of such changes indicates pathologic conditions. Hence he decries gastropexy for simple gastroptosis, and is strengthened in this view by the bad conditions he has encountered in some cases after supposedly successful gastropexy. Treatment of gastroptosis disturbances should be based on all the diagnostic measures at our command, roentgenoscopy in particular. Progress will be best promoted by surveillance of the individual case, recording the effect of the various measures applied. In this borderland between medicine and surgery there is danger that the disturbances may be erroneously ascribed to a neurosis. On the other hand, if an operation is done in a case of actual neurosis, the patient is liable to merely localize the evil at some other point.

62. **Defective Weight Bearing by the Vertebrae.**—Numerous illustrations accompany this article, all demonstrating certain objective features which reveal that something is wrong in the static balance of the vertebrae. There may be contracture of the long muscles of the spine or inability to move the spine freely. In certain cases the need for some support is evident, or there may be actual deformity. Schanz has found no mention in the literature of contracture of the long muscles of the back as a symptom of vertebral insufficiency, but the photographs in the textbooks showing traumatic spondylitis and similar vertebral trouble show the contracture plainly. But, as Schanz points out, it may occur with merely static insufficiency of the vertebrae, and it disappears as this is remedied. The subsidence of these objective signs of vertebral insufficiency demonstrates that our measures are proving successful.

63. **Dangers of Lumbar Puncture.**—Schönbeck reviews the literature on this subject from Quincke's first report on lumbar puncture in 1891 to recent articles, listing 137. He gives summaries from the records of 71 deaths following lumbar puncture. In 37 cases there were intracranial tumors; cysticercus in 2; echinococcus disease in 1. In these 40 cases there was thus some process encroaching on the space inside the skull. The cause of the mishap in other cases was hemorrhage in 13; uremia in 4; meningitis in 7, and in 2 cases an elongation of the cerebellum squeezing into the

foramen magnum. In the remaining 5 cases there was acute myelitis, a cerebellar abscess, compression by a tumor of the spinal cord in the neck, or anemia of the brain and pulmonary edema. The fifth case was in a rachitic child with pneumonia. In 15 of the total 71 cases less than 5 c.c. of fluid had been evacuated. The pressure was not abnormally high in most cases, but a remarkable drop in the pressure was evident in a number, even when small amounts of fluid had been withdrawn. In one case the drop was 60 mm. mercury although only 30 c.c. fluid had been withdrawn. In one case the first drops were aspirated. In 3 cases the patient was seated for the lumbar puncture, and in one case he was raised to the sitting position during the procedure. Some of the mishaps occurred with cautious and apparently reliable technic. The disturbances came on at once or after an interval of several hours. In 25 cases the respiration ceased although the pulse kept up good; in one case artificial respiration was kept up for seventeen hours, but the patient could not be revived.

Lumbar puncture seems to have only a briefly transient if any injurious action on the healthy, but the consequences may be disastrous in pathologic conditions. There do not seem to be any absolute contraindications, but it is safer not to apply lumbar puncture in case of hemorrhage in the skull or vertebral canal or intracranial tumors, especially those in the posterior cranial fossa. Extreme caution is necessary when lumbar puncture is attempted with tumors in the vertebral canal, in uremia, with inflammatory disease of the central nervous system, cerebral abscess, arteriosclerosis and also with purulent meningitis. Aspiration and ambulant lumbar puncture are vigorously denounced. The main dangers are hemorrhage from vacuum action, and obstruction to communication between the various cavities. The precautionary measures that should be enforced in case of intracranial tumors or similar processes are twenty-four hours' preliminary bed-rest; puncture with the patient lying on his side, the head low; close watch over the pressure in the fluid and its fluctuations; one or two days' bed-rest afterward, with the head lower for the first twelve or twenty-four hours; avoidance of alcohol and any excitement after the puncture, and, finally, allowing only gradual transition from the reclining to other positions.

Berliner klinische Wochenschrift

Dec. 6, 1915, LII, No. 49, pp. 1249-1272

65 *Itching from Chilling. (Stauungshyperämie durch Kälte.) P. G. Unna.
66 *The Food Problem for the Sick During the War. (Das Ernährungsproblem für Kranke während der Kriegszeit.) I. Boas.
67 *The Prognosis of Ovarian Tumors. T. Landau.
68 War Epidemics and Importance of Contact Infection. (Ueber die Kriegsseuchen und die Bedeutung der Kontaktinfektion.) Menzer. Concluded in No. 51.
69 *Irritation of the Pudic Nerve Simulating Catarrh of the Bladder. (Reizung des Nervus pudendus—Neuralgie.) G. Zuelzer.

December 20, No. 51, pp. 1297-1320

70 *Winter Pruritus. (Pruritus hiemalis.) P. G. Unna.
71 Study of Phthisical Thorax. (Ein phthisischer Thorax nach Form.) H. Virchow.
72 Abdominal Wounds. (Zur Chirurgie der Bauchschüsse.) Posner.

65. **Treatment of Itching from Frostbite.**—Unna explains the mechanism of itching from frostbite as a tendency to sanguinolent edema with secondary paralysis of the arteries. The resulting hyperemia from the stasis is what entails the itching in chilblains, etc. The stasis hyperemia must be corrected by inducing vigorous circulation through the parts, transforming, he says, *"Stauungs- in eine Wallungshyperämie,"* correcting the tendency to stasis edema by pressure or toughening measures, such as painting the feet and hands with pure ichthyol and applying adhesive plaster when it is dry.

66. **The Nutrition Question.**—Boas comments on the prevailing scarcity of animal food in Germany, saying that persons who used to have to take spa treatment regularly, now keep themselves in good condition without it. The war is thus proving an actual benefit for those inclined to overeat, and for the complications of obesity and gout. The diet of the masses is becoming a strictly vegetarian diet. The endurance of vegetarians on long marches and in other tests of the physical strength has been so conclusively demonstrated during this war that physicians can no longer ignore such facts. At the same time, he adds, in order to manage with a vegetarian diet, providing the adequate amounts of nourishment required, severe physical exercise is indispensable. He agrees with Zuntz' dictum: "The less the amount of physical work and the greater the amount of intellectual work, the more necessary is it for the food to be of kinds easily digested and not taking up much space." It is important to recognize further, Boas continues, that meat stimulates the appetite besides supplying valuable nourishment, and this question of relish is by no means negligible. He mentions that he has long found very useful in forced feeding a chocolate, served hot or cold, made with 30.2 per cent. cocoa butter and 45 per cent. sugar (15.3 per cent. cane sugar and 29.8 per cent. milk sugar). In conclusion he urges compulsory courses in cooking in the public schools.

67. **Prognosis of Ovarian Tumors.**—Landau refers only to simple papilliferous serous cystadenoma, commenting on their tendency to invade both ovaries and produce calcium concrements, and their liability to work into the ligaments and to secrete a serous fluid which accumulates in the abdominal cavity along with effusion of peritonitic origin. The tolerance for this ascites is shown by cases on record in which the patients were tapped 299 and 600 times. One of his patients had these bilateral papilliferous tumors on both sides with dissemination on the peritoneum, but has been free from recurrence during the ten years to date since their removal, although adhesions prevented complete excision. The papillary cystoma masses left behind must have shriveled without further tendency to ascites. In his experiences with 57 cases, a permanent operative cure was realized in 23 cases, the interval since over nine years in 10. In 7 cases the rupture of the cysts during the operation entailed implantation metastasis, which in some cases displayed a malignant tendency, as in a case described in detail with the histologic findings. There was an interval of ten years before the recurrence, and laparoscopy revealed inoperable malignant degeneration. In a second case the recurrence eight years after the primary operation was of the same benign type as the first growth, and the health has been good during the few months since the resection of the large cystoma in the mesentery, although the viscera were scattered with cysts of all sizes from that of half a fist downward.

69. **Neuritis of the Pudic Nerve.**—Zuelzer relates that he had encountered before the war two cases in which irritation of the pudic nerve induced symptoms deceptively simulating those of a catarrhal affection of the bladder. He has since encountered it in ten or twelve soldiers on trench duty. The region innervated by the nerve is abnormally sensitive. The trouble subsided under treatment as for neuralgia.

70. **Winter Pruritus.**—In this continuation of his study of itching, Unna discusses the itching which is liable to occur in the legs after retiring in cold weather. (Previous instalments were summarized in these columns Jan. 15, 1916, p. 227). The relief from pressure of the clothing and the warmth induce conditions which entail the itching. Causal treatment is the wearing of a high elastic stocking or strips of adhesive plaster to prevent the sinking of the blood into the more or less enlarged veins, and means to soften the horny layer compressing the capillaries thus distended under the influence of gravity. For local application to improve the circulation, arrest the itching, soften the horny layer, and cure any tendency to eczema, he recommends a mixture of 24 parts each of diachylon ointment and camphor ointment (Ung. Hebrae and ung. camphorati) and 1 part each of phenol and chlorbenzol. (The latter is better known in this country as chlorbenzene.)

Deutsche medizinische Wochenschrift, Berlin

Nov. 25, 1915, XLI, No. 48, pp. 1417-1444

73 Advantages of and Technic for Early Operations on Nerves Wounded in War. (Zur Frühoperation, Mechanik der Nervenverletzung und Technik der Naht.) M. Wilms.
74 *Improved Technic for Localization of Projectiles During Their Removal. (Stellsonde-Verfahren. Eine Methode der Operation von Projektilen.) G. Schwarz.

75 Epidemic Superficial Mycosis. (Eine in Krankenhäusern epidemisch auftretende Fadenpilzerkrankung der Haut—Ekzema marginatum Hebrae.) W. Fischer.
76 Ameba Dysentery. (Zur Aetiologie der Amoebenruhr.) M. Hartmann; (Ueber Ruhramoeben.) W. Kruse.
77 *Findings Before and After Test March. (Aerztliche Beobachtungen an Teilnehmern eines Armee-Gepackmarsches.) Thiele.
78 The First Year of the War and the Physical Development of the Public School Children. (Das erste Kriegsjahr und die grossstädtischen Volksschulkinder.) A. H. Kettner.
79 Simplified Technic for Microscopic Examination of Cerebrospinal Fluid. (Zur mikroskopischen Untersuchung der Rückenmarksflüssigkeit.) Alter.

December 30, No. 53, pp. 1565-1588

80 Experiences with Treatment of Wounded Nerves and Nervous Affections in Soldiers. (Erfahrungen über die Behandlung nervenverletzter und nervenkranker Soldaten.) M. Lewandowsky.
81 Successful Removal of Tumor Evidently Rooted in the Side Ventricle. (Zwei Fälle von operativer Beseitigung von Gehirngeschwülsten.) A. Westphal.
82 War and Internal Medicine. (Ergebnisse der bisherigen Kriegserfahrungen auf dem Gebiete der inneren Medizin.) Reckzeh. (To be continued.)
82 Stained Beer-Agar Culture Mediums. (Praktische Nährböden zur Diagnose von Cholera, Typhus und Dysenterie.) L. L. Sobel.
84 Simple Apparatus for After-Treatment of the Wounded. (Einfache Apparate zur Behandlung Kriegsbeschädigter.) A. Alsberg.
85 The Field Hospital in Antiquity. (Verbandplätze und Kriegslazarette im Altertum.) W. Haberling.
86 Social Service in the Hospitals. (Soziale Krankenhausfürsorge.) J. Schwalbe.

74. **Localization of Foreign Bodies.**—Schwarz gives an illustrated description of an improvised arrangement for roentgenoscopy with the tube under the table and one or two probes automatically adjusted on a standard above.

77. **Capacity for Endurance in Men on Long March.**—Thiele recorded for comparison the height and the weight, temperature, pulse and blood pressure before and after a long march, the men carrying the regular army equipment. This outing march was organized by a turner society at Berlin, to train in exercises which form part of the regular work of troops on active service. The greatest endurance was shown by men from 18 to 25; the drop in blood pressure averaged only 12 mm. mercury. Under 18, the drop averaged 19 mm.; in the older men it was 38 mm. These figures show the necessity for medical oversight of such exercises. They emphasize further the importance of the medical officer with a troop guarding the older men against extreme exertion so far as possible.

Medizinische Klinik, Berlin

Nov. 14, 1915, XI, No. 46, pp. 1253-1278

87 *Fractures. (Ueber Knochenbruchbehandlung.) E. Braatz.
88 Chemical Sterilization of Small Amounts of Water. (Die Desinfektion kleinerer Trinkwassermengen durch chemische Mittel.) O. Spitta.
89 *Causal Germ and Serotherapy of Infectious Jaundice. II. (Weitere experimentelle Untersuchungen über die sogenannte Weilsche Krankheit.) P. Uhlenhuth and W. Fromme.
90 Familial Acromegaly. J. Leva.
91 Advantages of One per Thousand Silver Nitrate Solution in Treatment of Suppurating Wounds. (Behandlung eitriger und jauchender Wunden mit schwachen Silbernitratlösungen.) J. Löblowitz.

November 21, No. 47, pp. 1279-1306

92 Pseudospastic Paresis with Tremor in Soldiers on Active Service. (Ueber Myotonoclonia trepidans.) H. Oppenheim.
93 Bacteriologic Experiences in War Epidemics. (Bakteriologische Erfahrungen über Kriegsseuchen.) H. Aronson. Concluded in No. 51.
94 Fracture of the Heel Bone as Typical Injury on Man of War. (Die Kompressionsfraktur des Calcaneus als typische Seekriegsverletzung.) G. Magnus.
95 *Difference in Temperature in the Right and Left Axillae. (Einseitige Steigerung der Körpertemperatur.) R. Wilzel.
96 Pedunculated Skin Flap for Secondary Plastic Operation after Amputation. (Zur Technik der sekundären Hautlappenplastik bei Kriegsamputierten.) H. Hans.
97 The Diazo and Urobilinogen Reactions in the Urine in Typhoid. (Ueber den Nachweis, das Vorkommen und die klinische Wertung von Urobilinogen und Diazo im Harne Typhuskranker.) K. Pick.
98 Typhus in Prisoners' Camp. (Ueber Fleckfieber.) O. Müller. (Commenced in No. 45.)

87. **Fractures.**—Braatz describes a number of devices that have proved very useful in his experience with fractures. As bedsteads are usually too short to apply extension properly for a man, in his private clinic he has the sides of the bed made unusually long, so that the bed measures 8½ feet at least (2.5 m.). A dislocation accompanying a fracture should be reduced at the same time the fracture is treated. Traction toward the side may accomplish this, as in a case cited. A sliding carriage for the leg to rest on runs on two long rollers extending from side to side, instead of wheels. He says of nail extension that there are a number of cases in which this is the only practicable measure, and it answers its purpose well. The muscles as well as the bones are involved in the pathologic unit of a fracture, and the laws of physics and the biologic behavior of the muscles confirm that muscles can be stretched with the application of the least force when they are in semiflexion.

89. **Spirochete and Serotherapy of Infectious Jaundice.**—Uhlenhuth and Fromme remark that conditions are peculiarly favorable for research on infectious jaundice with guinea-pigs. They do not develop the disease spontaneously nor contract it from infected guinea-pigs, but four days after intracardiac injection of 1 or 2 c.c. of defibrinated blood from an infected animal they begin to present the typical picture of Weil's disease, and the necropsy findings are likewise typical. A spirochete was found in every instance in the liver and bile, more rarely in the blood and kidneys. The spirochetes can be filtered out but no chemicals that were tried seemed to have a destructive action on them, not even a 1:1,000 solution of mercuric chlorid nor salvarsan. On the other hand, 2 or 3 c.c. of serum from a convalescent, mixed with 1 c.c. of the virus blood and left in contact for thirty minutes, neutralized the virus so that the mixture was absolutely innocuous, the animals inoculated with the mixture showing no signs of the disease while the controls all sickened and died. The convalescent serum was effectual even in the proportion of 0.01 c.c. to 1 c.c. of the virus blood. It also displayed a pronounced curative action when injected into animals with infection already installed. They call attention in particular to this latter fact, saying that it justifies the use of convalescents' serum in the clinic. The serum of convalescent rabbits also displayed prophylactic and curative action. They confidently assume that horses, sheep and asses can be utilized for the purpose, and that serotherapy of Weil's disease is thereby placed on a stable basis. The spirochete is very delicate and does not coil in regular spirals. In the succeeding number, Uhlenhuth and Fromme report the discovery of the spirochete in question with the Levaditi staining technic in the liver of a patient with Weil's disease.

95. **Unilateral Fever.**—A man of 44 was squeezed against a wall by a passing wagon. He fell unconscious but no apparent serious injury resulted, beyond bruises. One hour afterward the temperature in the right axilla was 39.5 C. (103 F.) and in the left axilla, 36.8 C. (98 F.). Various thermometers were used and changed about. They all recorded the same, and the next morning again, 39.2 in the right axilla and 36.8 in the left. By noon the latter temperature prevailed on both sides. The accident was followed by mutism and the pulse kept about at 66 for several days. Welzel emphasizes that this case can be regarded as an absolutely authentic instance of unilateral rise in temperature in a patient with other symptoms of hysteria.

Münchener medizinische Wochenschrift, Munich

Dec. 28, 1915, LXII, No. 52, pp. 1781-1796

99 Roentgen Examination of the Heart to Determine Fitness for Military Service. (Zur Röntgenuntersuchung des Herzens bei fraglicher Militärtauglichkeit.) F. Groedel.
100 *Atrophy of the Liver Following Trauma. (Akute gelbe Leberatrophie—nach Unfall?) H. Curschmann.
101 Red Vision from Solanin Poisoning. (Fall von Rotsehen nach Genuss der Samen von Solanum dulcamara L.) R. Hilbert.
102 *Ninhydrin Reaction in the Cerebrospinal Fluid in Tuberculous Meningitis. (Untersuchung tuberkulös meningitischer Punktionsflüssigkeiten mit Hilfe der Ninhydrinreaktion.) E. Nobel.
103 *Sciatica and War. (Ischias und Krieg.) E. Blind.
104 Treatment of Stump after Amputation. (Zur Behandlung der kegelförmigen ungedeckten Amputationsstümpfe, namentlich des Oberschenkels.) F. Franke.
105 Usable Prothesis for Thumb and for Entire Arm. (Ein brauchbarer Ersatz für den Daumen und ein künstlicher Arbeitsarm bei Exartikulation der Schulter.) B. Lange.
106 Roentgen Localization of Foreign Bodies. (Erfahrung mit dem Fürstenauzirkel.) R. Seubert.

107 Treatment of Incipient Ear Disease in the Field. (Merkblätter für Feldunterärzte. IV.) B. Heine.
108 Treatment of Fracture of Upper Arm and Shoulder. (Behandlung der Schussfrakturen des Oberarms und des Schultergelenks.) A. Schlesinger.

100. **Acute Yellow Atrophy of the Liver from Trauma.**—Curschmann remarks that the case reported is the third one of which he has knowledge in which the syndrome of acute yellow atrophy of the liver followed close on traumatic injury of the organ. His little patient was a strong healthy boy of 2 who had quite outgrown a tendency to moderate rachitis. He fell twice in one day on the back of a chair, striking the abdomen each time, and three days later signs of acute yellow atrophy of the liver developed, rapidly fatal.

102. **The Ninhydrin Reaction in the Spinal Fluid in Tuberculous Meningitis.**—This is Nobel's second article in our exchange during the year bearing on the response of the cerebrospinal fluid to Abderhalden's ninhydrin test. He applied it to a large number of spinal fluids, comparing the albumin content, ferments content, microscopic, bacteriologic and other findings with the response to the ninhydrin test. The response to the latter was exceptionally pronounced in tuberculous meningitis, as he shows by the tabulated details in eleven cases. The reaction was pronounced even after the albumin had been removed from the fluid. In two instructive cases—one of pulmonary tuberculosis with cavities and one of miliary tuberculosis—the ninhydrin reaction was constantly negative and necropsy confirmed the integrity of the meninges. Kafka's research has confirmed these findings. Both Nobel and Kafka expatiate on the extreme sensitiveness of the test, positive findings not being conclusive. Nobel regards as the criterion a decided blue tint half a minute after the conclusion of the boiling. A positive reaction is important in differentiating tuberculous meningitis from typhoid, pneumonia, septic infections and, in children, digestive disturbances, or gastro-intestinal catarrh. In excluding these it has only the significance of any other single clinical phenomenon, like the leukopeny of measles, the enlarged spleen in typhoid and other phenomena which are not absolutely specific but taken in connection with other clinical phenomenon are highly suggestive. (Compare with editorial in THE JOURNAL, April 17, 1915, p. 1332. Kafka's report of his findings was listed in these columns Nov. 20, 1915, p. 1859.)

103. **Sciatica.**—Blind has been very successful in treating recent sciatica in soldiers by bloodless stretching of the nerve under local anesthesia or the first whiffs of ether, overstretching the nerve with the knee in extension, followed the same day with gymnastic exercises, including bending far forward with straightened knees. Many of the patients extolled the benefit from the one effectual sitting after months of futile sweat baths, rubbing, etc. Treatment is reenforced with superheated air, mud baths, electricity, massage, or vibration gymnastics as the case may be. Perseverance and determination on the part of the patient and encouragement by the physician may be necessary to ward off superposed hysteria. Blind warns also that the supposed sciatica may be a symptom of unsuspected constitutional disease.

Wiener klinische Wochenschrift, Vienna

Dec. 9, 1915, XXVIII, No. 49, pp. 1337-1372

109 Gunshot and Shell Wounds of Larynx and Trachea; Seventeen Cases. K. Kofler and V. Frühwald.
110 *Tuberculin Treatment of Early Syphilis. (Die Tuberkulinbehandlung der Frühlues.) M. Biach.
111 Diarrhea from Presence of Anguillula. (Ueber Anguillula-Erkrankung.) A. Arnstein.
112 Experience in a Cholera Epidemic. (Ueber die Choleraepidemie in Brcka Juni bis Juli, 1915.) S. Frankl and F. Wengraf.
113 Typhoid Simulating Typhus. (Zur Frage des Flecktyphus auf dem galizischen Kriegsschauplatze.) W. Spät.
114 Rapid Restoration of Function after Operation on a Nerve. (Ueberraschend schneller Erfolg einer Nervenoperation.) R. Beck and E. Reither.
115 Halting Stations for the Wounded. (Ueber Krankenhaltstationen, ihre Aufgaben und zweckentsprechenden Einrichtungen.) Pilzer

December 23, No. 51, pp. 1405-1432

116 Treatment of Whooping-Cough with Disease Products (Sputum) of Patients with Pertussis. (Ueber eine neue Behandlungsmethode des Keuchhustens.) R. Kraus (Buenos Aires).
117 Pathogenesis of Quincke's Edema. P. Neuda.
118 Return of Kneejerk in Tabes under Tuberculin Treatment; Four Cases. (Ueber das Wiederauftreten des Patellarreflexes bei Tabikern durch Tuberkulinbehandlung.) E. Wodak.
119 Relapsing Fever. (Ueber das Rückfallfieber.) Tobeitz.
120 Typhus. (Bemerkungen über Flecktyphus.) Marcovich.
121 Posttyphoid Tremor Resembling Paralysis Agitans. (Zur Kasuistik post-typhöser Systemaffektionen.) O. Gross.
122 Necessity for Operating Room on Hospital Train. (Notwendigkeit von Operationswagen für Spitalszüge.) A. Bielka von Karltreu.

110. **Induced Fever in Treatment of Early Syphilis.**—Biach recalls Wagner's statistics which apparently show that any intercurrent febrile affection soon after contracting syphilis seems to modify the infection favorably, so that tabes and progressive paralysis do not follow later. To induce artificially a febrile affection seems thus a justifiable procedure, and tuberculin is the simplest means for the purpose. Biach applied this method of treatment to patients with positive Wassermann, with or without secondary manifestations. The visible manifestations of the syphilis were at once influenced by the tuberculin or the febrile reaction to it, rapid retrogression being the rule. The tuberculin was given in addition to the usual mercury or salvarsan treatment, but Biach gives no details as to the dosage. He adds that the influence of the tuberculin on the Wassermann reaction was extremely interesting but does not enter into particulars.

Zeitschrift für Tuberkulose, Leipzig

December, 1915, XXV, No. 1, pp. 1-80. Last indexed October 9, p. 1315

123 *Natural and Artificial Heliotherapy of Lupus. A. Jesionek.
124 *Reclining as a Factor in Hemoptysis. (Zur Behandlung der Hämoptoe.) W. Neumann.
125 Trauma as a Factor in Pulmonary Tuberculosis. (Trauma und Lungentuberkulose. Vier Obergutachten.) J. Orth.

123. **Heliotherapy in Lupus.**—Jesionek is chief of the lupus sanatorium at Giessen and of the university clinic for skin diseases. He applies the direct sunlight in treatment or the mercury quartz lamp rays without any artificial devices to enhance their potency or expel the blood. The entire body is exposed, as he is convinced that the pigment generated in the epidermis by the rays is absorbed into the circulation to a certain extent and carried to the tuberculous foci where it exerts a therapeutic influence. (A previous communication from him on this subject was summarized in THE JOURNAL, Jan. 1, 1916, p. 69.) Lupus foci shielded against the light healed under the general heliotherapy, which can be explained only by the above assumption. He gives an illustration of fifteen lupus patients some of whom have been taking this treatment for several months and their skin shows as dark as a negro's in the photograph. The sunbath room has glass walls and the patients in bathing trunks are gradually accustomed to the light, only fifteen or thirty minutes at first. The exposures are carefully regulated to avoid sunburn. The pigmentation realized with the mercury quartz lamp ranks with that from direct sunlight. With several of these lamps the room is transformed into an artificial sunbath hall. He gives no casuistic details.

124. **Hemoptysis.**—Neumann noticed that the reclining position seemed to facilitate hemoptysis in some patients. The tendency to bleeding stopped at once when these patients were got up out of bed. Morphin given to combat hemoptysis is often directly responsible for aspiration pneumonia to which he attributes the outcome in the majority of fatal parenchymatous hemoptysis cases. A typical example is related; the young woman was kept under morphin and made to lie still in bed. After a few days of this, fatal pneumonia developed, evidently the result of aspiration. He places great reliance on intravenous injections of 10 per cent. saline and on the calcium salts. The latter are given preferably in the form of purified calcium chlorid, siccum or fusum, in a daily dosage of 2 or 3 gm. (0.04 or 0.05 gm. per kilogram of weight), in capsules or in a 10 or 20 per cent. solution. A teaspoonful of the 20 per cent. solution can be taken three times a day in water or in a cup of (cooled) cocoa. This calcium medication is kept up for several weeks or months unless there are gastro-intestinal disturbances.

The action of the ciliated epithelium is explained to the patient so that he is content to merely hawk and clear his

throat when he feels a tickling there, and does not attempt to cough up prematurely sputum from the depths each time. The desire to cough can often be suppressed by a sip of milk at room temperature taken through a tube. If a narcotic is necessary he gives codein and avoids morphin. If the heart action is bad, digitalis may be useful. This also promotes coagulation. If any signs warn of retention or aspiration pneumonia he gives emetics in heroic doses, for vital danger impends. He never witnessed any harm result from vomiting after a hemoptysis.

Gazzetta degli Ospedali e delle Cliniche, Milan

Dec. 23, 1915, XXXVI, No. 92, pp. 1441-1456

126 Case of Hard Edema Simulating Elephantiasis. (Contributo allo studio dell'edema duro.) E. Serra.

December 20, No. 93, pp. 1457-1472

127 Gauze Dipped in Petrolatum Liquefied by Heat for Dressing and Draining Wounds. (La medicatura e il drenaggio alla paraffina.) A. L. Soresi (New York).

December 30, No. 94, pp. 1473-1488

128 *Connection between Polymorphous Erythema and Tuberculosis. (Contributo clinico sulla natura e significato dell'eritema polimorfo.) B. Nicola.

128. **Polymorphous Erythema May Be a Sign of Latent Tuberculosis.**—Nicola describes seven cases in six of which an idiopathic polymorphous erythema was soon followed by symptoms of incipient tuberculosis or else tuberculous lesions were already installed. De Blasi has also published some cases in which persons who had presented polymorphous erythema at some time developed pulmonary tuberculosis a few years later. This is not at all common, however; Nicola found no history of anything of the kind in 500 tuberculous patients whose antecedents were investigated. At the same time, the experiences related testify that incipient or established tuberculosis is the cause of a certain proportion of cases of polymorphous erythema.

Semana Medica, Buenos Aires

Oct. 28, 1915, XXII, No. 43, pp. 503-546

129 *Epithelioma of the Tongue. (Electroignicion y epitelioma de lengua.) E. Cisneros.

130 *Prevalence of Grippal Pneumonia at Buenos Aires. (Sintomatologia rara en el curso de una neumonia.) R. Cabrera.

November 4, No. 44, pp. 547-574

131 The "Melting Pot" in Argentina and the Argentinian Race. (La formacion de una raza argentina.) J. Ingenieros.

129. **Epitheliomas of the Tongue.**—Cisneros has made a special study of these growths and he found that always the growth extended down into or started in the floor of the mouth. When the neoplasm was destroyed by electrocauterization, following it down into the floor of the mouth, a permanent cure was realized. Consequently he declares that epithelioma of the tongue is as readily curable as superficial growths. The lingual artery is the connecting link between the epithelioma of the tongue and the floor of the mouth. When there is a history of syphilis he gives the epithelioma the local treatment first and then treats the syphilis.

130. **Grippal Pneumonia.**—Cabrera comments on the prevalence of pneumonia in children at Buenos Aires and the frequency of cerebral symptoms, delirium and paresis. In one case a child of 3 had twelve days of fever, diarrhea, cough and great prostration with signs of pneumonia and in the throat the "grippal arch and papules, Ortiz' sign." Brought to the hospital in this stage the child was somnolent, and both arms and legs were as if paralyzed. The head sagged on the thorax when the child was raised to a sitting position. The tendon reflexes were attenuated but there was no paralysis of the respiratory muscles nor of the velum. The twenty-first day after the first symptoms the fever dropped and improvement progressed to complete recovery.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

Dec. 25, 1915, II, No. 26, pp. 2715-2778

132 *The Behavior and Functioning of the Spleen in Acute Infectious Diseases. (Bijdrage tot de kennis van de rol der milt bij acute infecties.) A. E. Sitsen.

132. **The Spleen in Acute Affections.**—Sitsen is director of the medical school at Soerabaja, in the Dutch East Indies, and hence his study of the spleen in acute infections refers to tropical conditions. In 1914 there were ninety-two cases of croupous pneumonia in the prison and the same number in the public hospital. The mortality was the same, 43 per cent. in each group. He relates that the clinical picture of this disease in the East Indies differs widely from the disease as encountered in Europe. A close connection was evident between the clinical course and the anatomic findings, and between both these and the reaction on the part of the spleen. He discusses further the behavior of the spleen in a few cases of typhoid and of infectious colitis, suppurative processes and pleurisy. The data apparently indicate that in the tropics the spleen may be regarded as constantly more or less pathologic to start with.

Hospitalstidende, Copenhagen

Dec. 29, 1915, LVIII, No. 52, pp. 1327-1346

133 Acute Appendicitis; 178 Operative Cases. (Statistiske Meddelelser om akut Appendicit.) P. Bull (Christiania).

Hygiea, Stockholm

1915, LXXVII, No. 23, pp. 1401-1488

134 Information for Civilian Physicians in Regard to the Military Medical Service. (Några detaljer rörande sakkunskap och militär sjukvård.) F. Klefberg.

135 *Abuse of Wood Alcohol and Other Substitutes for Liquor. (Något om bruket av denaturerad sprit och andra surrogat för spritdrycker.) J. Billström.

135. **Substitutes for Liquor.**—This communication from an institution for treating inebriates states that, in the last seventeen years, of the 386 inmates, seventeen were in the habit of using denatured alcohol; eight perfume, and others various substitutes for alcohol, bringing the total to sixty-one in this category. The denatured alcohol was taken mixed with Pilsener beer and this mixture seems to be growing in favor as a beverage. Billström remarks that it would be better to denature with an emetic rather than with the substances now used. In the lower classes these substitutes for liquor are taken usually only after drinking more or less liquor. The addicts of a higher social grade resort to them as a rule only during periods of abstention from liquor.

Ugeskrift for Læger, Copenhagen

Dec. 23, 1915, LXXVII, No. 51, pp. 1995-2020

136 *Foreign Bodies in the Bronchi; Sixteen Cases. (Om Fremmedlegemer i de dybere Luftveje.) A. Thornval.

Dec. 30, No. 52, pp. 2021-2032

137 Suppuration in Mesenteric Glands; Two Operative Cases; Recovery in One. (Om Adenitis glandularum mesenterii.) A. Piers.

136. **Foreign Bodies in the Bronchi.**—Some of the sixteen cases reported confirm anew that a foreign body can be drawn into the lower air passages and cause so little disturbance that its presence is not suspected. One small child had a sudden attack of suffocation, suggesting that it had "swallowed something the wrong way," but then there was no further trouble of the kind and the suspicion was dropped. Two months later the child was brought to the hospital for prolonged "pneumonia," but with final apparent recovery. The child seemed to be healthy and active; only very rarely there was an attack of coughing, without expectoration. After eighteen months the attacks of coughing became more frequent and fever developed. Roentgenoscopy then revealed a foreign body in the left bronchus and it was successfully removed by tracheotomy. The brass pencil tip had evidently been in the lower air passages for nearly two years. The fact that the attacks of coughing were brought on by exercise or abrupt change of position should have suggested the proper diagnosis long before; rhonchi and weaker respiration over part of the lung would have confirmed it. In such cases dangerous complications are liable to develop at any moment, especially atelectasis simulating pleurisy with effusion or pneumonia. In one of the cases related and in one published by Schiödte the patients were long treated for supposed pulmonary tuberculosis. Only two of the sixteen patients were adults. Two of the total sixteen succumbed, one to bronchopneumonia and one to a gangrenous process.